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## Abstracts of Unpublished Masters' Theses Indiana State Teachers College 1933 and 1934

Puckett, W. Orville. *An Evaluation of Statistical Terms, Formulae, Graphs, and Tables Used in Research*. August, 1931. Pp. 63. (No. 46.)

**PROBLEM.** The study was undertaken to determine what statistical terms, formulae, graphs, and tabular representation taught in the mental measurement classes of different colleges were actually being used by the students in their research work.

**METHOD.** The research method was followed in the study. The criterion was a glossary of three hundred terms used in educational measurement and research. Twenty-one of the leading texts in the field of mental and achievement measuring, twenty-one masters' and doctors' theses from the University of Chicago and Columbia University, twenty magazine articles, and eight surveys were examined. The terms used were classed as majors and minors, the majors including all terms used by at least fifty per cent of the authors and the minors including all terms used by less than fifty per cent of the authors. A general conclusion was arrived at and specific terms were recommended as being used sufficiently to warrant their being taught to students of research work.

**FINDINGS.** The study of the textbooks

revealed that out of the three hundred terms suggested as a basis, only seventy-eight were used by the textbooks writers; some of these terms were ones that may be used generally rather than specifically. Median headed the list of terms of more specific meaning, having been used 438 times; norm was second with a frequency of 345; correlation was third with a frequency of 328; and intelligent quotient was fourth with a frequency of 317. The others, in their order of ranking, were as follows: range, mental age, coefficient of correlation, objective, variability, mean, deviation, chronological age, probable error, validity, percentiles, standard deviation, ranking, and rating. Thirty-eight of the terms were considered of major importance and the remaining forty were placed in the minor classification. The number of different terms used by the individual authors ranged from sixteen as the minimum (W. S. Monroe) to forty-nine as the maximum (F. M. Symond); the median was thirty-six and seven-tenths. The five graphs were used very generally, but the frequency polygon was used the greatest number of times. It was used 298 times by twenty of the twenty-one authors. Tables were used rather freely by each of the text-

book authors. Terms that fell into the major class in the textbooks also appeared most frequently in the theses. The minor terms seemed to become more and more unnecessary as the research student applied his knowledge practically. Tables were carried over into the practical field, also; and the frequency polygon was used most by the theses writers. In the study of the magazine articles and the surveys it was found that the terms which appear most in the published works are the more general terms that could be understood by the reader.

The findings of this study would indicate that these terms used in the glossary as the criterion should be classed as to importance. It seems that the emphasis should be placed upon the terms in the major classification with those in the minor class being taken up indirectly.

Hatke, Sister M. Agnes. *The Relationship of Certain Factors to Semester Marks in First Year Algebra*. July, 1933. Pp. 92. (No. 120.)

**PROBLEM.** A attempt was made to determine which of the facts commonly recorded about pupils can be used most effectively to guide pupils, especially those whose probabilities of success in algebra are very slight. The solution of this major problem was attacked by means of two minor problems. First, an effort was made to determine the relationships between semester marks in first year algebra and each of the following factors: mental age, I. Q., chronological age, eighth grade achievement in arithmetic, eighth grade average scholarship, occupation of the parents, and per cent of absence. Second, in order to determine the adequacy of the coefficient of mean square contingency as a measure of relationship, this coefficient was compared with the Pearson product-moment coefficient of correlation and the correlation ratio.

**METHOD.** Statistical methods of solution were employed. Data were collected for all pupils who completed first year algebra, either 9B or 9A, in the three high schools of Lafayette, Indiana, during the first

semester of the school year 1931-1932. The 344 pupils of the study consisted of 210 boys and 134 girls.

Coefficients of mean square contingency were computed to determine the relationships between semester marks in algebra and each of the other factors for the entire group, for boys only, and for girls only.

These coefficients were then compared with the Pearson product-moment coefficients of correlation and the correlation ratios for six sets of factors. Algebra marks and occupations were not correlated by the Pearson product-moment method.

**FINDINGS.** Approximately equal percentages of pupils received each of the various marks. Nearly one-fourth of the pupils failed in first year algebra. Of the boys twenty-eight per cent failed and eighteen per cent received the highest mark, A. Of the girls thirteen per cent failed and thirty-two per cent received the highest mark.

For the entire group of boys and girls the highest relationship between algebra marks and any of the other factors is that between algebra marks and eighth grade arithmetic. The lowest relationship is that between algebra marks and occupations. All the relationships are low, between .20 and .50.

For the boys only the highest relationship between algebra marks and any of the other factors is that between algebra marks and eighth grade average scholarship. The lowest relationship is that between algebra marks and occupations. All of the relationships are low, between .20 and .50.

For the girls only the highest relationship between algebra marks and any of the other factors is that between algebra marks and I. Q.'s. The lowest relationship is that between algebra marks and chronological ages. All of the relationships are low, between .39 and .50.

The uncorrected coefficients of mean square contingency are practically equivalent to the Pearson product-moment coefficients of correlation or the correlation ratios for any two variables. The contingency method of computing correlations may be used safely and advantageously to



secure a quite accurate measure of the relationship between two variables.

If regression equations were set up, estimates of algebra marks from any of the other factors used in this study would be only eight to thirteen per cent better than mere guesses.

Batenhorst, Sister M. Gabrielis. *A Study of the Direct and Indirect Methods of Character Training in High Schools*. July, 1933. Pp. 102. (No. 121.)

**PROBLEM.** This study was undertaken with a twofold purpose: first, to make a survey of character education programs in various high schools of the United States to ascertain the direct and indirect means of promoting character training; second, on the basis of the information obtained, to decide which methods would be preferable in the construction of a character-education program for high-school students.

**METHOD.** The questionnaire method was used to secure data. One thousand questionnaires were sent to principals of secondary schools throughout the United States. A total of 305 replies was received. The information secured from these replies forms the basis of this study.

**FINDINGS.** Of the 305 replies received, 119 or thirty-nine per cent reported the use of the direct type and 186 or sixty-one per cent the use of the indirect type of character education. The public schools reported the preferable use of the indirect type. The private and parochial schools are more devoted to the direct type. The use of types, however, overlaps for 55 of the 186 respondents from schools using the indirect type report the occasional use of the correct type; and 75 of the 119 respondents who use the direct type profess to correlate the two types as occasion demands.

Those schools using the direct type of character education have definite courses of study, definite time allotment, and definite instructional material including textbooks, bulletins, pamphlets, workbooks, codes, etc.

In those schools where the indirect type is used incidental training is carried on through the regular subjects of the cur-

riculum, through extra-curricular activities, and through the cooperation of the teaching staff.

The result of this study shows an extreme divergence of practice in the different school systems. There is no best method. The endeavors of most principals seem to be directed toward the utilization of regular curricular and extra-curricular activities to develop desirable habits and ideals. In order to realize all the objectives of character education all available means and methods must be utilized—home, church, school, and community, with such methods as may be most beneficially employed in each case.

Chestnut, Nanna Stuart, *A Study to Determine the Value of Mathematical Knowledge to Home Managers*. July, 1933. Pp. 80. (No. 122.)

**PROBLEM.** This study was threefold: first, to determine the value of mathematical knowledge to home owners; second, to determine the phases of mathematics used in ordinary financial problems of home management; and third, to find what need there is for promoting a course of "Mathematics of Finance" and the subjects prerequisite to it in the high-school curriculum.

**METHOD.** The cash and installment prices of things needed by home owners and home managers were obtained from Terre Haute business firms. From these firms were determined: first, time usually allowed for payment; second, amount of down payment required; third, the size of payments required; fourth, the financing charges; and fifth, any other costs which might enter into the transaction. The data were put in the form of problems which were solved to find the effective rates of interest. The formulas used for the computation of the problems were analyzed to determine the phases of and amount of algebra which were necessary in order to understand them and to develop ability to solve the financial problems of home managers. Thirteen second-course algebra texts were analyzed to determine the number of pages of the present high school

textbooks devoted to the topics listed in the analysis of mathematical processes.

**FINDINGS.** The rates of interest paid for installment buying, as a whole, are high. In the group of problems listed for home-equipment buying the rates varied from 10.575 per cent to 40.809 per cent, all high rates of interest. This group included furniture, heating systems, plumbing, electric appliances, and so on. The building and loan rates are more conservative; however the rates are higher than the quoted rates because interest is charged on the even \$100.00. The rates of interest paid for installment buying of automobiles are very high. In this group the rates varied from 22.114 per cent to 114.28 per cent; the highest rate, of course, being that on the used car. For delinquent utility bills the rates are as high as 723.21 per cent.

The algebraic formulas and topics used in the computation of the financial problems of this thesis make up the subject matter of 52.83 per cent of the pages of the average second-course textbook. As a prerequisite for a course in the "Mathematics of Finance," there would be necessary a second course, as well as a first-year course in algebra.

The home manager should have the mathematical knowledge necessary for computing the rates of interest and amounts paid for the services of installment buying and finding the immediate worth of the services of the article to himself. As a twelfth-grade mathematics course, the "Mathematics of Finance" would be a practical course for the high school senior to elect. It would be more practical than courses in trigonometry or college algebra, for it could be of use to all adults while trigonometry and college algebra would be of practical value to only a few.

Powell, P. R. *Status of the Negro High School Teacher in Missouri.* August, 1933. Pp. 78. (No. 123.)

**PROBLEM.** The purpose of this study was to learn the true status of the Negro high school teacher in Missouri. This study en-

deavored to collect all the data possible relating to the: (1) personal and social status of the teacher; (2) academic and professional preparation and training; (3) experience and tenure in teaching; (4) conditions governing the work done; and (5) salary and economic status of teachers.

**METHOD.** This study was based principally on a questionnaire distributed October 1, 1932, among the teachers in fifteen cities. One hundred and three or fifty per cent of the questionnaires were returned. Out of the 103 returns, 62 were answered by men and 41 by women. The size of the schools varied from those employing 1 teacher to those which hire 46 teachers, and the enrollment varied from 8 to 1,600 pupils. Six of the sixteen schools were members of the North Central Association of Colleges and Secondary Schools; four were accredited by the state department of education as first-class schools; two were second-class schools; two were third-class schools; and two were unclassified schools.

**FINDINGS.** Fifty-nine and eighty hundredths per cent of the teachers were men and 40.20 per cent were women.

The average present age of the teachers was 34.125 years, but the ages of the teachers ranged from 18 to 62.

The average beginning age of all teachers was 22.77, but the beginning ages of teachers ranged from 16 to 39.

Ten and seventy-eight hundredths per cent of the teachers were born and reared in the country; 10.78 per cent were born and reared in villages; and 78.44 per cent were reared in the cities.

Forty-nine and fifty hundredths per cent of the teachers were married men, and 31 of the 50 married men had families with an average of 2.40 children per family; 9.75 per cent of the women teachers were divorcees or widows.

One hundred per cent of the teachers had had elementary school training. One hundred per cent of the same group of teachers had had secondary school training or its equivalent.

Seventy-nine and sixty-one hundredths per cent held bachelor's degrees; 17.47 per

cent held special certificates in respective specialized fields; 2.91 per cent of the teachers had neither degrees nor diplomas.

Fifteen and fifty-three hundredths per cent of the teachers had earned master's degrees.

Nineteen and forty-one hundredths per cent of the teachers had had rural experience with an average of 1.6 years.

The average city experience for the group of 103 teachers was 9.85 years, with a standard deviation of 8.250 years.

The size of the classes ranged in number of pupils from twelve to 380 pupils. The average number of pupils per day was 124.13 pupils per teacher.

The number of class recitations ranged from two to ten per day.

Sixty-nine per cent of the teachers reported that they were supervised. The number of times the teachers were supervised ranged from one to ten times, with three times as the average.

According to the data for the school year 1932-33, the salaries of the secondary teachers average \$192.10 per month for an average period of nine and one-half months for the school year.

Seven per cent of the teachers, most of whom were men, received an income of \$285.57 apart from their teaching salaries.

Sixty per cent of the teachers supported dependents besides their families with the cost ranging from one hundred to five hundred dollars per year.

Davis, Roy V. *A Project in Test Construction and Improvement in the Odon-Madison School System*. August, 1933. Pp. 63. (No. 124.)

**PROBLEM.** The purpose of this study was to develop an interest in and method for the construction and improvement of home-made testing material which would conform more closely to the textbook used, the state course of study, and the teacher's personal methods of instruction.

**METHOD.** In practically all subjects from grade four to twelve the teachers under the supervision of the superintendent made new type tests to cover the work of the second semester of the school year 1931-

1932. They were validated by using textbooks, courses of study, other tests, and teachers' judgment.

The tests were administered both as inventory and final examinations.

By means of a tally sheet each test was analyzed item by item. Objectionable items were eliminated and the remaining ones grouped according to kind and arranged in the order of difficulty to form the improved tests.

The improved tests were re-scored and reliability coefficients were computed. They were also correlated for validity with certain other intelligence and achievement tests.

**FINDINGS.** Having the tests made by the teachers before the semester began insured a thorough outlining and organizing of the work before beginning to teach it. It also led to a more thorough comprehension of the state course of study.

The project led to an active interest in better tests and testing methods.

Better tests led to a greater motivation of the work of the pupils.

The improvement process could be carried on without administering the tests as inventories. Using the gains made between a pre- and post-test as a basis for pupil placement has some very serious limitations.

The improvement process should be continued from year to year until each teacher has built up a wealth of valid and reliable testing material sufficient for two or more forms of each test.

Kiger, Karl Wood. *An Analysis of Methods and Helps in the Teaching of Macbeth*. August, 1933. Pp. 133. (No. 125.)

**PROBLEM.** The object of this study was to analyze and evaluate methods and helps in the teaching of *Macbeth* found in five editions and five anthologies and in the best literature on the teaching of the drama or Shakespeare since 1895.

**METHOD.** Textbooks, articles in periodicals, courses of study, and bulletins dealing with the teaching of literature were searched to provide a list of aims and objectives in the teaching of literature which would

serve as the criteria for the work of analyzing and evaluating methods and helps. Materials in five editions of *Macbeth* and five anthologies and methods and help suggested by textbooks, courses of study, articles in periodicals, and bulletins were analyzed and evaluated.

**FINDINGS.** There was considerable agreement among writers and courses of study on the aims and objectives in the teaching of literature. These aims were: (1) character training, (2) understanding, (3) enjoyment, (4) development of taste, (5) appreciation, (6) mastery of language, (7) worthy use of leisure, and (8) enrichment of experience.

Introductions to *Macbeth* varied from 1.3 pages to 128.6 pages. Twenty to thirty pages were usually devoted to this kind of material. The space given to various kinds of background materials was often badly proportioned.

More illustrations were found in the new editions and anthologies than in the old editions. Most illustrations were well-chosen.

The average number of notes in editions was 609.6; the average number in anthologies was 583.2. Anthologies contained more notes for understanding; editions had more notes for appreciation; anthologies included more language notes. Better balance could be obtained. The anthologies had easier, better arranged notes than the old editions.

The five anthologies and one edition contained questions and suggested activities on the play. The highest number of questions was 504. These were found in the edition. The lowest number of questions found was 132. About forty per cent of the questions were thought questions on the plot and characters. There were few conduct questions. The activities emphasized these aims: appreciation, understanding, enrichment, and mastery of language.

There was agreement as to the types of books for supplementary reading. Most of the lists were not annotated.

Worth while materials were found in both the editions and the anthologies. The latter seemed to be in general more inclusive

of methods and helps in the teaching of the drama.

The methods used in teaching the play will depend upon the teacher and the teaching situation. Since the drama is meant to be oral, there will be considerable oral reading and dramatization of selected scenes. The treatment should be less formal than it has been in the past. Illustrative materials should be used when they are needed, and simple handiwork will prove helpful. The language will be studied chiefly as an aid to understanding and appreciation. Memorization of a reasonable amount should be encouraged. Character study should be rather detailed, and a careful study of the plot structure should be made. Composition activities that are interesting and not out-worn will aid in the study of the play. New-type tests will likely prove to be the most suitable kind of tests on the play.

St. Clair, Hadie E. *The Consolidation of the Schools of Hamilton Township with the Sullivan City Schools.* July, 1933. Pp. 71. (No. 126.)

**PROBLEM.** This study was undertaken to try to find out whether or not it was best both for the city of Sullivan and the people of Hamilton Township to consolidate their schools. The basis of this study are: (1) social, (2) educational, and (3) financial.

**METHOD.** The research and personal interview methods were used in this study. Records were obtained from the trustee of Hamilton Township, from the superintendent of the Sullivan schools, and from the Sullivan County superintendent of schools. Personal interviews were obtained with former teachers of Hamilton Township and the trustee during whose term of office the consolidation was brought about.

**FINDINGS.** The benefits derived by both the people of Sullivan and the people of Hamilton Township from the consolidation of their schools may be summarized as follows:

#### SOCIALLY

1. Consolidation brought about broad understanding of their school problems by



the people of both the city and the country.

2. It prevented friction between the farming and the mining interests.

3. It brought more children together to play.

4. It gave the rural people a new conception of the meaning of a school district.

#### EDUCATIONALLY

1. Consolidation brought about broader curricula for the pupils by including the teaching of special subjects.

2. Consolidation caused more uniformity in studying and reciting.

3. A better distribution of school time, especially in the most important subjects, was established by consolidation.

4. Because of consolidation there was less retardation of the rural pupils.

5. A larger unit for school purposes was effected by consolidation.

6. Consolidation caused the pupils of Hamilton Township to be more punctual in school attendance.

#### FINANCIALLY

1. Consolidation prevented Hamilton Township from having a bonded debt.

2. It linked business interests between the people of the city and those of the country.

3. The per capita cost of the Sullivan schools increased slightly after consolidation, while the per capita cost of Hamilton Township actually decreased.

Scheetz, Sister Mary Genevieve. *The Relation of Dramatics to the Objectives of Secondary Education*. August, 1933. Pp. 135. (No. 127.)

**PROBLEM.** This study attempts to show how dramatics can be used toward realizing the objectives of secondary education in the present turbulent phase of contemporary life. The problem statement is as follows:

1. Problem One. The objectives of secondary education are determined by the needs of contemporary life.

2. Problem Two. The aims and purposes of dramatics are directed toward the growth of the individual student.

3. Problem Three. Dramatics may be used to realize the objectives of second-

ary education, and, inferentially, to contribute to contemporary life.

**METHOD.** The study uses the historical method. To clarify the entire problem situation data are deduced from these three separate sources.

1. To find the relation between contemporary life and the objectives of secondary education, the study is constrained to draw largely from books, reports, periodicals, and letters published or written within the 1932-1933 interval.

2. To determine the aims and purposes of dramatics, a limited number of quotations from worth while sources are analyzed and tabulated.

3. As a field for application of the criteria formulated in (1) above, plays identified with each successive trend of British dramatic production are carefully selected.

Using the objectives of secondary education as criteria in gathering the "raw" situations inherent in the fabric of the selected plays, the study makes a final attempt to find the relation that dramatics bears to the objectives of contemporary secondary education.

**FINDINGS.** The findings on the three steps in the resolution of the entire problem may be stated as follows:

1. Contemporary life requires a new philosophy or theory of education. The exigencies of the time restrict and hamper the individual's desire to move forward toward a material gain. He is forced back upon his own personal resources. Education must replenish his immaterial resources. From the representative number of quotations and personal letters listed the authors' beliefs and opinions appear very accurately in this functional formula:

a. The objectives of secondary education

(I). Individual growth and development

(A). Mental—self-mastery

(B). Social—civic—economic

(C). Personal—cultural—health

2. By means of an analysis of the nature of dramatics and of stated opinion,

dramatics in secondary education is found to have these as its aims and purposes:

- a. Individual growth and development
  - (I). Mental—self-mastery
  - (II). Social—civic—economic
  - (III). Personal—cultural—health

3. Therefore, it is found with a marked degree of accuracy and worthwhileness that dramatics may make a large contribution to contemporary life, because

a. Dramatics promotes the student's mental growth and increases his self-mastery

b. Dramatics fosters social—civic—economic development

c. Dramatics tends to enrich personality, for

(I). It provides for a worthy use of leisure time

(II). It awakens health consciousness.

Hau, Sister M. Honora. *A Study of Non-Enrollment of Pupils of Legal School Age in the Schools of Indiana, 1930-1931*. August, 1933. Pp. 95. (No. 128.)

**PROBLEM.** This study considers: first, the causes of non-enrollment; second, a study of each specific cause relative to its controlling factors, efforts to overcome the controlling factors, and the possible extent of elimination of the controlling factors. The investigation limits itself to the schools of Indiana for the school year 1930-1931.

**METHOD.** The survey method was used in this investigation. The data were obtained from interviews with the state attendance officer, from annual reports, from Indiana statutes, from Indiana court decisions, and from the replies of the questionnaires sent to the 172 attendance officers of Indiana. Sixty-five per cent of the questionnaires were answered.

**FINDINGS.** The chief causes of non-enrollment are: physical unfitness, feeble-mindedness, poverty, ill-health, child marriages, employment.

Schools are still inaccessible to many children in Indiana.

Thirty-eight counties in Indiana have only partial transportation of children of school age.

The two outstanding causes of non-trans-

portation of school children are carelessness of township officers to provide transportation and lack of funds to carry on.

All localities in Indiana make some provision for enabling poor children to attend school. The most common method is the provision of food, clothing, books, and other necessary school accessories.

Preventable ill-health constitutes one of the chief sources of loss from the ranks of school. Scarlet fever was epidemic most frequently. Measles registered the greatest number of cases.

Urban districts have epidemics under better control than rural districts.

Child marriages in Indiana occur about one in every 10,000 children. The chief cause of these marriages is lack of parental supervision.

On the basis of total non-enrollment eleven per cent of the children were not in school during the first semester because of employment and seven per cent in the second semester. Domestic and farm labor are the prevailing employments for children in Indiana.

Thirty-four per cent of the feeble-minded of Indiana are in institutions and twenty-four per cent of the physically unfit.

Many of the feeble-minded wait years to be admitted because the institutions are overcrowded.

Prejudice of parents to institutional care keeps out many from institutions.

Cunningham, Floyd M. *A Study of the Value of the Indiana New-Type Test for the Eighth Grade for Predicting Success in the First Year of High School*. August, 1933. Pp. 44. (No. 129.)

**PROBLEM.** Do the scores made on the Indiana New-Type Test for the eighth grade indicate to any degree the success in first-year high school?

The criterion for success used in this study was the achievement in the four regular subjects studied in the first year of high school. Achievement was measured by the semester marks earned by the pupil.

An attempt was made to determine: (a) whether the test as a whole predicts, to

any extent, general success in first-year high school; and (b) whether a score in any subject indicates a relatively high or low mark in a related subject in first-year high school.

**METHOD.** The statistical method was used in this study. The data were collected by the writer directly from the records of the county superintendents and from the records of individual schools. Four hundred and fifty cases from four counties were used. The data include only those cases for which a complete record of eighth grade semester scores, and a complete record of ninth grade marks were available.

The findings of other similar prognostic studies were compared with those of this study.

**FINDINGS.** The total scores made on the eighth grade semester tests compared to the total semester marks earned in the first year of high school gave a correlation coefficient of .625 indicating a forecasting efficiency of twenty-two per cent.

The correlation coefficient for reading scores and total high school marks was .495, indicating a forecasting efficiency of thirteen per cent.

The correlation coefficient for reading scores and English marks was .525, indicating a forecasting efficiency of thirteen per cent.

The correlation coefficient for language scores and English marks was .607, indicating a forecasting efficiency of twenty per cent.

The correlation coefficient for language scores and Latin marks was .45, indicating a forecasting efficiency of eleven per cent.

The correlation coefficient for arithmetic scores and algebra marks was .532, indicating a forecasting efficiency of fifteen per cent.

The data of this study seem to justify the following conclusions: (1) The Indiana New-Type Test has about the same value for predicting success in first-year high school as other standard tests, or as eighth grade marks. (2) The Indiana New-Type Test as a whole has little value for predicting success in the first year of high school. (3) Subject scores made on the

test have little value in predicting success in a related subject in the first year of high school.

Crosser, Margaret. *Follow-Up Vocational Study of Students of the Upper and Lower Quartiles of Brazil High School for the Years 1914-1919*. August, 1933 Pp. 59. (No. 130.)

**PROBLEM.** This study was made for the purpose of determining whether or not students in the upper quartile of Brazil high school for the years 1914-1919 were more successful in life than were those of the lower quartile.

**METHOD.** The research method was used in this study. Beginning with approximately four hundred and forty students graduating in the years 1914-1919, one hundred of the upper quartile and one hundred of the lower quartile were selected. Data concerning location, occupations, highest salaries ever received, number of years spent in college, and, if the women were married, occupations before marriage were gathered. This material was organized and used in reaching conclusions.

**FINDINGS.** A. The median salary of the men of the upper quartile is higher than the median salary of the men of the lower quartile.

B. The median salary of the women of the upper quartile is higher than the median salary of the women of the lower quartile.

C. The median salary of the entire lower quartile is higher than that of the entire upper quartile.

D. The median salary of those with college training is higher than that of those without college training in the upper quartile.

E. The median salary of those with college training is higher than that of those without college training in the lower quartile.

F. The median salary of those with college training in the lower quartile is higher than that of those with college training in the upper quartile.

G. The median salary of those without

college training is higher for those in the lower quartile.

H. The median salary for those in the upper quartile who left home is higher than the median salary of those who remained home.

I. The median salary of those in the lower quartile who left home is higher than the median salary of those who remained home.

J. The median salary of those in the lower quartile who remained home is higher than the median salary of those of the upper quartile.

K. The median salary of those of the upper quartile who left home is the same as the median salary of those of the lower quartile.

Rayburn, Russell H. *Conduct Problem. Study in Elementary School.* August, 1933. Pp. 50. (No. 131.)

PROBLEM. The purpose of this study was to use and evaluate the immediate results of the direct method of teaching character traits used in the Charter's "Conduct Problem" workbooks for grades four to eight, inclusive.

METHOD. The experimental method was followed in this study. Preview tests consisting of twenty type cases were presented to four classes. Three of these classes then studied one lesson per week for one school year, the workbooks in conduct problems, while the other class, used as a control group, did not study the workbooks. At the close of the course a review test was taken which presented the twenty identical cases which had been used in the preview test. The results of these two tests were analyzed to determine the advances made as classes and as individuals, both in total scores and specific character traits. Eighty-seven pupils completed the course.

FINDINGS. Class one using fourth grade "Conduct Problems" made a gain of 5.5 per cent or 25 points out of a possible 460 points on the review test over the preview test. The average score was 13 out of a possible score of 20.

Class two using fifth grade "Conduct

Problems" made a gain of 10 per cent or 59.5 points out of a possible 600 points. The average score was 12.2 of a possible 20.

Class three using seventh grade "Conduct Problems" made a loss of 3 per cent or 8.5 points out of a possible 480 points. The average score was 17.3 of a possible score of 20. The control group using the same tests but not taking the study course made a loss of 4 per cent with an average score of 17.1 points out of a possible 20 points.

The traits of honesty and courtesy were stressed more than any other traits throughout the series of workbooks. The greatest gain was made on the courtesy trait, that of ten per cent. A four per cent gain was made in honesty.

The ability to make high scores on the "Conduct Problems" test shows a very high relationship with the scholarship of the child.

The results show very little relationship to general conduct.

In the individual studies, the influence of the home was the greatest factor leading to either high or low scores.

The teacher is the main element both for selecting the cases studied and for guiding the class discussion to a proper climax.

Using the present available means of determining results and measuring progress, no definite advance in character traits could be attributed to the use of the conduct books in the classroom.

The conduct books are very interesting to the children as they are suggestive and appeal to reason. The work, if properly directed by a skillful and conscientious teacher, offers a classroom situation which is conducive to learning and has a socializing influence rarely found in the classroom.

Farr, Catheryn M. *The Development of Education in the Public Schools of Terre Haute 1816-1860.* August, 1933. Pp. 94. (No. 132.)

PROBLEM. This study was undertaken to collect information which presents a re-



sume of the development of the public schools of Terre Haute.

**METHOD.** The historical method was followed in the study. The first records kept by Vigo County commissioners, by the City Council of Terre Haute, and by the school boards were examined. Source material was also obtained from letters and reminiscences of the early inhabitants of the town. Newspapers, as well as histories of Vigo County and of Terre Haute were used for additional information.

**FINDINGS.** Terre Haute, like many other frontier settlements in the early eighteen hundreds, depended almost entirely upon private or subscription schools to educate her more fortunate children.

Occasionally, prior to 1853, a short term public school was held, but only when there were enough funds.

"Learning was at a discount" and although the state, in 1816, had made provisions for education, all schools were township institutions, having township patronage, and depending upon township support. Until 1853 Terre Haute was under the control of Harrison Township in all matters pertaining to education.

Since sufficient funds were not available, many earnest advocates of public schools, such as Caleb Mills, worked tirelessly, and finally succeeded in stirring the legislature to favorable action.

The result of their efforts was a public school system for Indiana as stated in the new Constitution of 1851.

Terre Haute was among the first cities of the state to carry out the provisions for public schools.

However, although conditions had seemed so promising, free schools were maintained but one year, 1853-1854.

As a result of lack of funds, injunctions and all other possible legal hindrances, it was voted on August 10, 1854 to suspend the city schools till the first Monday in January, 1855, and to rent the school rooms.

The School Law of 1855 which was an act to authorize the establishment of free public schools in the incorporated cities and towns of the state of Indiana was declared

unconstitutional. The Supreme Court decision of 1857 in *The City of Lafayette and Martin, County Treasurer vs. Jenners* caused the "death blow" to public schools in Indiana. The only exception was the school system in Evansville which had retained its former charter.

According to the interpretation by the Supreme Court, the Constitution forbade the people of any city or corporate place in the state, to tax themselves to support free schools, until the whole state should consent to tax itself for the same purpose.

Again the town passed through a period of educational "dark ages," which was ended by the permanent re-establishing of the public school system in 1860.

McGuirk, Alice B. *A Study of the Achievement of Pupils Who Studied the Harold Rugg's Fused Course in Social Studies As Compared With Those Who Studied Separate History and Geography Courses.* August, 1933. Pp. 43. (No. 133.)

**PROBLEM.** This study was to learn the achievement of pupils who studied the Harold Rugg's fused course in social studies as compared with those who studied traditional history and geography courses.

An analysis of the testing program revealed two types of information, first, the *status quo* of the Harrison Township and the Woodrow Wilson Junior High school pupils in social studies, history, and geography, and second, the correlation between subjects within each group.

**METHOD.** The data were collected through a testing program. First, the Terman Intelligence Group test was given to determine the I. Q.'s. Then the achievement tests were given which consisted of the Denny-Nelson American History Test, the Torgerson geography test, and a social studies test. The scores of the tests were made into frequency tables in order that the real average, median, and standard deviation could be obtained and compared. The correlation tables indicated the relation between the general intelligence of the two groups, and the relation between subjects within a school.

**FINDINGS.** 1. The relationship be-

tween the I. Q.'s of the two groups (correlation .99) shows that the groups as paired had practically the same general intelligence.

2. The differences in the means of the social studies groups show that in eighty-nine cases out of one hundred, the Woodrow Wilson Junior High School group would rate higher in solving present day problems.

3. The difference in the means in the history scores of the two groups proves the Harrison Township pupils to be very superior in answering factual type tests, such as Denny-Nelson American History test.

4. The difference in the means of the geography scores is in favor of the Harrison Township group. Both groups, however, measure almost up to the standard norm of forty.

5. The relation between intelligence and performance is different in the two types of schools. This is probably due to the different type of textbooks, teaching methods, teaching personality, etc., since the variables, such as educational qualifications, were practically the same. See Table I, page 12, and Table II, page 13.

6. Finally, this study, when all limiting factors are considered, furnishes no conclusive evidence as to the superiority of either curriculum over the other.

Offutt, Georgia P. *A Study of the Effectiveness of Public Playgrounds on Juvenile Delinquency Areas in Negro Communities of Indianapolis*. August, 1933. Pp. 61. (No. 134.)

**PROBLEM.** The purpose of this study was to find out whether the public playgrounds decreased juvenile delinquency in the playground service areas.

**METHOD.** The research method was used in this study. The names and addresses of all the children who played on the playgrounds in the summer of 1932 were copied and classified according to the street address. The following data were copied from the juvenile delinquent records from 1925-1932: name, address, date, sex, charge. These records were classified as to years and then they were classified according

to the street address. A spot map was made from this classification which showed the location of the playground attendants and juvenile delinquents to the playground.

**FINDINGS.** Playgrounds do not decrease delinquency in the communities studied. The data and the method of treating the data in this study indicated that no difference was made in the per cent of delinquency to the total juvenile population by the existence of a playground in the area.

In 1932 there were eleven paid playground instructors; of the eleven, one had completed two years of professional training in physical education. The other ten, had completed only the three days compulsory institute training course.

The present Negro population is not best served by the present location of the six playgrounds. The three playgrounds located on the outer edges of the city serve less than 1,000 children while 2,177 children near the center of the city were not served by playgrounds in their neighborhoods.

The Negro children in Indianapolis like to go to a playground where the activities program is attractive to them, because one hundred and four went more than three-fourths of a mile to Camp Sullivan playground.

The total attendance report showed that the attendance at Douglass, Northwestern, and Belmont, the three playgrounds where activities programs were full and varied, was much higher than the attendance at the other playgrounds where the activities program was less varied.

The per cent of delinquency inside and outside of the playground areas was approximately the same, according to the total population inside and outside of the playground area.

Delinquency was higher inside the playground areas in the summer months.

It was quite evident that the Negro playgrounds lacked real supervision and organization of the activities programs.

Theory and other studies show that where the playgrounds are well supervised by trained teachers and the activities pro-

gram is well conducted, delinquency is reduced.

Terrell, Oral. *A Comparative Study of the Four-Year Teaching Graduates of Indiana University and Indiana State Teachers College*. August, 1933. Pp. 117. (No. 135.)

**PROBLEM.** This study was undertaken with a twofold purpose: first, to determine which school prepared its graduates to earn the more in the teaching profession; second, to determine which group of graduates gave the more to Indiana in length of service for their state financed training.

**METHOD.** The research method was followed in this study. The data were collected from school reports filed at the Department of Education in Indianapolis. The four-year teaching graduates for two years were used. There were 1,697 four-year teacher graduates in the year of 1929-1930 and 2,193 in the year of 1932-1933, making a total of 3,890 four-year teaching graduates for a comparison of salaries and length of service. Teacher graduates, who had had as much as five years of training, were not included.

**FINDINGS.** There is no significant difference between the salaries of Indiana University women graduates and Indiana State Teachers College women graduates.

Indiana University men graduates do have a significant mean salary difference over the men graduates of Indiana State Teachers College.

The totals of all four-year teaching graduates studied gave Indiana University an insignificant advantage which is fifty-eight chances in one hundred. The result obtained was only seven per cent of what the result should be in order to insure a difference always greater than zero. Thus neither school has a significant advantage on the basis of salaries.

The difference in the means of the length of service is 1.73 years, in favor of the women graduates of Indiana State Teachers College. This is completely reliable since the chances are one hundred in

one hundred that the true difference is greater than zero.

Indiana State Teachers College men graduates had an advantage of .14 years in length of service. This is not significant since the chances are only sixty-two in one hundred that the true difference is greater than zero.

The totals of all four-year teaching graduates gave Indiana State Teachers College an advantage in mean length of service of 1.277 years. The chances are one hundred in one hundred that the true difference is greater than zero. This means complete reliability and therefore a true difference, proving that Indiana State Teachers College teacher graduates do remain in the teaching service longer than Indiana University four-year teacher graduates do.

On basis of this study Indiana University four-year teaching graduates have an insignificant advantage in mean salary and Indiana State Teachers College four-year graduates give more service in years to the state for their training.

Maple, Mary Frances. *A Comparative Study of the Individual Laboratory Method and the Teacher Demonstration Method in Biology*. August, 1933. Pp. 64. (No. 136.)

**PROBLEM.** The purpose of this study was to test the relative value of the individual-laboratory method and of the teacher-demonstration method to impart factual knowledge of biology to pupils in the ninth year of senior high school.

**METHOD.** The experimental method was followed in this study. The data used in this study were secured from four groups of ninth year students in Sullivan High School during the two semesters of the school year of 1931-1932. One hundred students were involved in the study. They were under observation weekly for three recitation periods of forty minutes each and two laboratory periods of eighty minutes each. The first and third groups were the ones in which the individual-laboratory work was done; while in the second and fourth groups the teacher-

demonstration method was used. Throughout the work the teacher performed the experiments while the students observed and discussed the work which was done in the teacher-demonstration method. However, in the individual method each student was responsible for the laboratory work.

**FINDINGS.** As a result of the first test, Ruch-Cossman Biology Achievement Test, Form A, which was given at the first of the year, it was found that ninth year students range in their knowledge of biology from practically nothing to a score of thirty-six which is the sixtieth percentile score after a year's work in biology.

Their original average grade was 11.75 for the individual group and 10.16 for the demonstration.

The individual group had the higher coefficient of correlation in the Ruch-Cossman, Form B test and the Laboratory test,  $.6635 \pm .055$  and  $.5929 \pm .056$  respectively. The demonstration group was  $.4537 \pm .0795$  and  $.5118 \pm .0742$ , respectively.

The individual group showed a slightly greater gain as judged by the test.

This was substantiated by their critical ratios.

The boys ranked higher than the girls.

The laboratory record sheets showed the demonstration group to be the more accurate.

Thus it was concluded that the individual method is better for deferred retention of factual knowledge while the demonstration is better for immediate retention.

Dixon, Napoleon. *An Objective Test in Biology*. August, 1933. Pp. 67. (No. 137.)

**PROBLEM.** The purpose in the production of this thesis is to construct an objective test in general biology which will: (a) measure the accomplishment of high school students in biology; (b) aid in maintaining a standard of accomplishment in the subject; (c) give teachers a uniform method by which students' grades may be compared with the grades of others in the school and with those in other schools; (d) aid in determining promotions and failures; (e) aid in finding weaknesses of students

and help in the correction of them; and (f) show teachers just what subject matter is being taught.

**METHOD.** From about 1,500 items a preliminary test of 415 items was made and given to 224 students in four different high schools. The items used were taken from tests previously given, those made from time to time in the writer's daily teaching, and from texts used in other schools of Indiana. All items were carefully selected according to the course prescribed by the Indiana State Course of Study. Then they were listed under three main divisions, zoology, physiology, and botany. Approximately the same number of items was made in each division. Four types of items were used. They were multiple choice, best answer, completion, and matching. The preliminary tests were scored and the items ranked according to difficulty. Approximately the middle three-eighths were used to make the improved test, except in group IV, where not more than twenty items were advisable. The items were arranged according to difficulty in the improved test. The number of items used in each group was as follows.

- a. Group I, 50
- b. Group II, 29
- c. Group III, 38
4. Group IV, 20

This made a total of 137 items.

**FINDINGS.** The coefficient of reliability of the improved test was found by the chance halves method to be .92. Other measures were as follows:

	Preliminary Test	Improved Test
Mean	$186.75 \pm 2.87$	$80.34 \pm 1.27$
Median	$172.11 \pm 3.6$	$81.5 \pm 1.6$
S. D.	$63.75 \pm 2.03$	$17.4 \pm .9$
Q. D.	35.94	13.39

Strain, William H. *Essential and Non-Essential Syntax and Inflection in High School Latin*. August, 1933. Pp. 122. (No. 138.)

**PROBLEM.** 1. What specific syntactical principles and specific inflectional forms



must a student use in order to read the Latin in high school textbooks?

2. How do the various syntactical principles and inflectional forms rank in frequency in high school Latin textbooks?

3. Do the books now in use teach these principles and forms in an order and with an emphasis appropriate to their respective frequencies?

**METHOD.** Representative Latin material totaling 1,801 lines taken from four second-year textbooks was critically analyzed. The respective frequencies were recorded for more than 200 details of syntax and almost every possible inflectional form of noun, pronoun, adjective, adverb, or verb. These data were arranged into appropriate frequency tables. Then suggestions were made on the basis of frequency, tempered by practicability, regarding what syntax and inflection should be taught in high school Latin and regarding the time order in which the various items should be introduced. These suggestions, in turn, were used as a standard by which to test four first-year textbooks and the recommendations of the Classical Investigation committee.

**FINDINGS.** About two thirds of all verb forms and a number of variations in declension and syntax were found so infrequent that teaching them in high school is hardly justified.

The conjugations of verbs rank in frequency as follows: third 958, first 608, second 393, *sum* 294, third *io* 276, fourth 179, irregular 223. About ninety-one per cent of all personal verbs are third person. More than ninety-six per cent of all verbs are present or past tense. More than fifty-five per cent of all verbs are indicative. Eight active indicative third person forms constitute about forty-two per cent of all verbs. The commonest verb form is the past participle.

The declensions of nouns rank in frequency as follows: third 1,490, second 1,419, first 606, fourth 234 fifth 198, others 48. Adjectives rank, first and second 1,412, third 377, indeclinable 82. The commonest pronouns are *qui* 314, *is* 236, and *hic* 173. Cases occur as follows: ac-

cusative 1,794, ablative 1,247, nominative 1,231, genitive 553 dative 293. About sixty-five per cent are singular.

Subjects of verbs rank as follows: understood 800, noun 718, pronoun 345, impersonal 42, infinitive 24, clause 3. Complements of verbs rank as follows: object accusative 998, infinitive 348, dative 271, predicate nominative 168, clause 112. Dependent clauses rank adverbial 367, relative 224, noun 115.

Of twelve items whose omission from the first year course this thesis recommends, two of the four first-year texts teach eight items each, one text teaches nine, and one teaches eleven.

Of fifty-eight recommendations of the Classical Investigation, this study entirely justifies thirty, partly justifies eleven, finds six doubtful, and proves four unwarranted; it proves the other four to be of more importance than the Investigation indicated and justifies addition of three items not included by the Investigation.

Ward, Fallis E. *The Status of Salaries of Indiana High School Principals for the Year 1932-33*. August, 1933. Pp. 90. (No. 139.)

**PROBLEM.** This study was undertaken with the following problems in mind: 1. What relation exists between enrollment and salary? 2. What effect does training have upon salary? 3. Is there any relation between subjects taught and salary? 4. Does the type of degrees affect salary? 5. Does the teaching load affect salary? 6. To what degree do the principal's duties affect salary? 7. In what measure does experience affect salary? 8. How does the salary for the year 1932-33 compare with 1930-31?

**METHOD.** The research method was followed in the study. All, 806, Indiana high school principals of schools with an enrollment from grades 9 to 12 were included. The data were gathered from the "High School Principal's Report," which is filled out by the principals and filed at the state superintendent's office at Indianapolis.

Using the *Indiana School Directory* as a guide, the schools were classified by

township, town, and city, and salaries compared, with the above problems in mind, for the year 1932-33.

To compare salaries for the years, 1930-31, and 1932-33, the schools in the state were sectioned according to the United States Official Guide.

The data were classified into frequency tables. Medians were used as the measures of central tendencies, and the first and third quartiles and the quartile deviations were employed as measures of dispersion.

**FINDINGS.** 1. The correlation between enrollment and salary is  $0.737 \pm 0.011$ , which indicates that as enrollment increases the salary of the principal increases.

2. The median high school in Indiana has ninety-seven pupils, and the median salary for the principal is \$1,876.

3. The median principal has had 182.8 weeks of training.

4. In the state as a whole, 4.6 per cent of the principals did not regulate teaching, 23.8 per cent taught social science, and 23.2 per cent taught mathematics.

5. In the state, but 7.1 per cent of the principals have no degree, 54.7 per cent have a bachelor's degree, and 38 per cent have a master's degree.

6. The per cent of principals holding a first-grade license increases from 62.7 in townships, to 76.7 in towns, and 83.9 in cities, but the median salaries drop \$12 from township to towns, and rise \$859 for cities.

7. Taking the state as a whole and considering the time element, the principal spends his median hours daily in this order: teaching, 3.26; administration, 2.06; and in supervision, 1.8.

8. The correlation between experience and salary is  $0.229 \pm 0.022$ , which is very low.

9. Some other items which affect salaries are: the ability of the local unit to pay, the salesmanship qualities of the principal himself, his "pull" politically, and his closeness in relationship to the powers that are in control or his friendship with those who are near in kin, must be

taken into account, and most of these are immeasurable.

Richardson, Allen B. *A Study of the Relationship between Number of Study Periods and Grades of the Pupils in John Adams High School, Cleveland, Ohio.* August, 1933. Pp. 42. (No. 140.)

**PROBLEM.** This study had its genesis in an experiment which was conducted at John Adams High School in the city of Cleveland, Ohio, during the fall semester of 1932. The school's original capacity of 2,500 was taxed at that time with an enrollment of 3,700, and it was decided by the principal, Mr. E. E. Butterfield, to give as many pupils as possible shortened programs which would include a minimum of study periods. Growing out of this experiment, this study included the following three purposes: first, to determine the effect of the reduction of the number of study periods upon scholarship; second, to determine the extension that may be safely made of the step; and third, to indicate the use other large city high schools might make of the results of the study.

**METHOD.** The statistical research method was employed in the study. All of the pupils of John Adams High School in the fall semester of 1932, exclusive of post-graduate and straight shop and home economics pupils, were classified on the basis of number of prepared subjects, course, intelligence, class, and sex. Within the various classifications, the pupils were then grouped according to the number of study periods in their programs. The final step was the working out of relationships by means of three types of correlations: product-moment, rank-difference, and calculating machine.

**FINDINGS.** It appeared evident, after calculation of the correlations, that there was not a great deal of relationship between the number of study periods that a pupil had and the grades he made. In the small classifications there were a few high positive correlations, but these were offset by the negative correlations which appeared. One would without a doubt conclude that those pupils who were not given a

full quota of study periods were certainly not seriously injured scholastically in relationship to their fellow-pupils.

If this reduction in number of study periods is to be carried on in the future, the results give evidence that the safest place for it is among the students of senior ranking as both girls and boys in that class did better work with no or few study periods than they did with many. Pupils with high intelligence also can be given a minimum of study periods without fear for their scholarship. As to courses, those enrolled on the academic work can, with the assurance of a well-maintained scholarship, have their study time in school reduced. The fewer study period programs can also be assigned to pupils who are not carrying a full class load with a feeling of safety. And finally, girls can be depended upon to maintain their scholarship with a reduction in the number of study periods.

A similar experiment is recommended to other large city high schools faced with a similar problem in the belief that the results will not differ much from those found here.

Kerr, Mabel E. *A Study of the Duties of Office Workers in Terre Haute, Indiana*. August, 1933. Pp. 127. (No. 141.)

**PROBLEM.** The problem to be investigated was stated in the following terms: To determine the duties of office workers in the city of Terre Haute.

**METHOD.** Time charts, covering a period of one week, were filled out by 107 office workers in Terre Haute during the summer of 1932. These workers were from fifty-seven offices. These offices represented thirty-nine different kinds of businesses and included both large and small offices in the downtown business section and in outlying industrial districts. All of the duties performed were listed and then classified according to type of work. The number and frequency of combination of different types of work as given by the workers was ascertained.

**FINDINGS.** A wide variation in duties performed by the workers was found. Of

the total number of 615 different duties, 263 were considered by the author as general clerical duties; 135 as duties of bookkeepers; 74 as duties of stenographers, secretaries, and typists; and the remainder were divided among duties of order clerks, shipping clerks, machine operators, invoice-billing clerks, mail clerks, cashiers, file clerks, payroll clerks, and managers.

Of the 107 workers fifteen called themselves bookkeepers only, eight called themselves stenographers, eight called themselves secretaries, seven called themselves stenographer-bookkeepers, two were general clerks, two were cashiers, two were shipping clerks, and two were combination of bookkeepers, cashiers, stenographers, and secretaries. The remainder were combinations of positions or only one position, but no two alike.

Those who called themselves bookkeepers performed 128 different tasks, most of which were purely bookkeeping duties. Those who called themselves cashiers performed thirty-five different tasks, which included general clerical work, stenography, bookkeeping, and cashier work. Those who called themselves general clerks were really combinations of other positions, such as stenographers, bookkeepers, and secretary. Those who called themselves stenographers performed sixty-two different duties, most of which were stenographic.

Bookkeeper was found alone or in combination with other work forty-eight times; stenographer was found thirty-seven times; cashier was found eighteen times, and secretary was found fifteen times.

The most frequent combinations were: stenographer with bookkeeping, bookkeeping with cashier, stenographer with file clerk, bookkeeper with file clerk, stenographer with cashier, and bookkeeper with secretary.

The recommendation was made that those who were interested in commercial work in Terre Haute reclassify the group or groups of duties in which they are especially interested (An example is given of the reclassification of bookkeeping duties

into groups under headings of Bank, Statements, Original Entry, Posting, etc.) and check with the textbooks and supplementary material used by them.

Lowe, Wayne L. *A Study to Determine the Need for and the Possibilities of Offering Industrial Education in Terre Haute, Indiana*. August, 1933. Pp. 119. (No. 142.)

**PROBLEM.** This study was undertaken with a fourfold purpose: first, to summarize present practices in industrial education in Terre Haute, Indiana; second, to learn how this program may be improved and made to meet the needs of boys and girls attending school in Terre Haute; third, it was carried on with a view to promoting a closer relationship between the Gerstmeyer Technical High School and the various industries of the city; and, fourth, to learn from local employers and employees of the possibilities of training boys for and up-grading men in those vocations in which the greatest number of employees were found in Terre Haute.

**METHOD.** A questionnaire was mailed out to some two hundred graduates of Gerstmeyer Technical High School in order to get suggestions from them as to ways in which they might have secured more effective help while in training, and also to get some indication as to the number of graduates who have worked in the vocation for which they had taken their training.

Information was collected per occupation by submitting still another questionnaire to two representative employers and to the labor union officials or to two representative workmen in the trade where no union existed. All employers were called upon personally to obtain their list of employees so a total estimate could be made of all employees per occupation and their present reactions toward the problems included in this study.

**FINDINGS.** Industrial arts work is offered in the seventh and eighth grades at Deming school similar to that offered in the three junior high schools, namely,

Woodrow Wilson, Sarah Scott, and McLean. This work consists largely of try-out work in sheet metal, bench metal, printing, foundry, electricity, mechanical drawing, concrete, and some work in wood. In Garfield, one of the four-year high schools of the city, boys are given work in bench metal, pattern making, foundry, woodwork and drawing, while at Wiley High School more stress is laid on mechanical and architectural drawing and woodwork. The industrial work offered at Gerstmeyer Technical High School includes both industrial arts and trade training courses. The activities offered include printing, architectural drawing, machine shop, blacksmithing, automobile mechanics, carpentry, patternmaking, foundry and electrical work.

One of the greatest needs for improving this program is now being met as rapidly as possible in that the entire program of industrial arts and trade training is being coordinated and correlated so that it provides an opportunity for boys taking work in this field to secure more valuable training and more extensive training in any field than has been the case in the past.

All of the employers and employees of the industries included in this study, with the exception of two, expressed a ready response and willingness to work with the school authorities in improving training conditions and in setting up a trade committee to guide the training of prospective employees. A willingness to employ trained boys and men was also expressed which makes it possible for the schools, particularly Gerstmeyer Technical High School, to develop a strong placement program in the various fields of industry, thereby establishing a close relationship between the schools and the industries of the city. It was also almost unanimously agreed by employers and employees alike that one of the most effective means of bringing about the desired results as to better trained men and boys and closer relationship between the schools and the industries of the city lies in the establishment of a practical, efficient evening school.



Fisher, Lynn C. *A Study of LaPorte County High School Graduates Relative to Their Educational Needs*. June, 1933. Pp. 82. (No. 143.)

**PROBLEM.** This study was undertaken with the purpose of evaluating the training of the LaPorte County high schools in respect to the meeting of the vocational and avocational needs of the high-school graduates. The following phases of the problem were considered: First, vocations and avocations of the graduates; second, value of the high-school training; third, subjects and extra-curriculum activities of most and least aid to the graduates; fourth, the graduates' recommendations for the improvement of the schools; and fifth, an evaluation of the county's fulfillment of the seven cardinal principles of education.

**METHOD.** The questionnaire method was followed in the study. One hundred personal interviews and 61 written questionnaires from 580 graduates of the period 1909-1921 were received, making a total of 161 questionnaires or 27.9 per cent of the entire graduating group.

**FINDINGS.** The vocations were distributed as follows, the numbers signifying the graduates in each vocation: professional field, forty; commercial field, thirty-four; industrial field and farming, thirty-two; married women, fifty-four; and unemployed, two. Many of the graduates were active in part-time vocations. The female median salary was \$1,200 a year; the male median salary was \$2,100 a year.

One hundred and one graduates entered institutions of higher learning after leaving high school and 50 of the 101 graduated from these institutions. Eight lacked the proper high school preparatory subjects needed for college entrance.

The avocations of interest, in order of their popularity, were: churches, fraternal organizations, and women's clubs. Other uses of leisure time consisted of reading, listening to the radio, traveling, and sports. There were 154 regular voters among the graduates.

The high school education was valuable to 148 of the graduates. One hundred and thirty-one felt they were better qualified for

their vocations than non-high-school graduates. The values were based on the fact that the majority of the vocations required a high school education. Other values were social and intellectual bases. One hundred and forty-six graduates were contented.

Subjects of greatest aid in vocational life, in order of their importance, were: English, mathematics, home economics, history, commerce, music, and science. Subjects of least aid were: foreign language, geometry, algebra, and science. The activities of most aid were: athletics parties, oratoricals, and music. Of least aid were athletics and parties.

Subjects of most aid in avocations were: English, history, mathematics, music, science, and home economics. Of least aid were: foreign language, mathematics, science, and athletics.

The recommendations were, in ranking of demand, an addition to the curriculum of commerce, home economics, health industrial arts, and agriculture. They would add to the activities: school paper, dramatics, debating, student council, school radio, and cinema.

They would drop from the activities athletics and dances, and they would limit all activities.

They would drop from the curriculum: foreign language, geometry, algebra, and science.

The seven cardinal principles were fulfilled with the exception of vocational efficiency. Twenty-six of the graduates were unaided by their high school training because they received no vocational education. The other graduates based the value of education on its social and intellectual grounds rather than on vocational benefits.

Weldele, Mary K. *Art in the Life of the Public School Pupil*. August, 1933. Pp. 48. (No. 144.)

**PROBLEM.** This study was undertaken to determine what effect public school art, both elementary and secondary, had upon the judgment of pupils when considering problems of art which occur in every day life.

**METHOD.** The research method was fol-

lowed in the study. A test including problems of every day art was prepared and given to 481 pupils from township and city schools.

The scores of these pupils were compared by classifying them into the following groups:

1. Those of township schools and those of city schools.
2. Those who had had elementary school art, and those who had not had elementary school art.
3. Those who had had secondary school art and those who had not had secondary school art.
4. Groups according to chronological age.
5. Groups according to school age.
6. Those who had attended one or more art exhibits and those who had attended no art exhibits.

**FINDINGS.** The mean of the pupils from the city schools was 10.6662 higher than the mean of the pupils of the township schools. The mean of the pupils who had had elementary art was 13.8124 higher than the pupils who had not had elementary art. The mean of the pupils who had had secondary art was 8.0645 higher than the mean of the pupils who had not had secondary school art. There was no great difference in scores caused by difference in chronological age or by difference in school age showing that maturity did not have as great an effect upon scores as did art training. The mean of those who had attended one or more art exhibits was 12.847 higher than the mean of those who had attended no art exhibits.

Using these results, it was found that both elementary and secondary school art tended to better the judgment of pupils in every day art problems; that maturity without the aid of some art training did not better the judgment of the pupils; that city school pupils had better art judgment than township school pupils; and that those pupils who had attended one or more art exhibits had better art judgment than those who had attended no art exhibits.

The general conclusion was that more

art training is necessary if the average person is to be able to appreciate art as it appears in every day life, in clothing, in the home, and in industry.

Jordan, Carl A. *A Comparison in English Ability of Indiana State Teachers College Freshmen between Those Who Had Latin and Those Who Had No Latin in Their High School Training.* August, 1933. Pp. 97. (No. 145.)

**PROBLEM.** This study is concerned, in particular, with the evaluation of the study of Latin in high school as an aid in the study of English. The purpose is to determine, if possible, the difference, if there be any difference, in English ability between Latin and non-Latin students, and to ascertain, as far as possible, in what way may be, or may not be, helpful in the study of English. This is the main objective. At the same time there are noted other possible differences, as between Latin students and Latin students, depending upon whether or not the study of Latin was pursued for two years or for a longer period; between Latin students and French students; between those who had no foreign language whatsoever and Latin or French students.

**METHOD.** The survey method was used. One thousand two hundred and forty-six cases of selected Indiana State Teachers College freshmen who had taken the entrance English examination were taken in hand. The study takes under consideration the amount of foreign language these students had in high school, their intelligence percentile rating, and the scores made on each part of the English test and on the whole test. Two different tests were considered. Five hundred thirty-two cases had taken the Iowa Placement Examination and seven hundred and fourteen cases had taken the Kansas (Barrett-Ryan) English Test. For the Iowa group the element of sex was considered. In order to compare the groups statistically the significance of differences was found.

**FINDINGS.** According to the Iowa test the three-and four-year Latin college freshmen showed greater ability than

either the two-year Latin or the no-foreign language freshmen. This was true for all four parts of the test and, therefore, true regarding spelling, punctuation, grammar, and "the good, clear, emphatic sentence."

The female of each group showed greater English ability than the males of the respective groups.

In general the findings on the Kansas test are similar to those of the Iowa test.

In brief, then, the facts, which revealed themselves in this study regarding the ability in English or Latin students may be thus stated:

The three-and four-year Latin group rates better in English than the two-year Latin group.

The two-year Latin group rates better in English than the no-foreign language group.

The three-and four-year Latin group rates higher in intelligence than the two-year Latin group.

The two-year Latin group rates higher in intelligence than the no-foreign language group.

Churchill, Paul K. *Indiana's Township High School Principal*. August, 1933, Pp. 63. (No. 146.)

**PROBLEM.** The primary purpose of this was to formulate a measuring stick by means of which the township high school principal of Indiana will be enabled to measure his relative professional standing among his fellow principals. Employers, also, can use the device as an aid in determining the relative fitness of applicants for principalships. The secondary purpose of the study was to determine if any outstanding changes have taken place in Indiana township high schools during the past ten-year period with respect to organization and personnel.

**METHOD.** The research method was used in the study. Data were secured from the high school report of the year of 1932-1933 and from the preceding issue of the *Indiana School Directory*. Only those qualities which were capable of being measured objectively were included. Data were gathered from 592 township high

schools. The attributes of the median principal were computed and this aggregation of attributes taken to represent the measuring stick. The secondary purpose of the study was realized by comparing data as found in this study with similar data found by Dr. J. R. Shannon and published in his Master's thesis, (Indiana University, 1922.)

**FINDINGS.** The completed measuring stick of thirty-two items as determined by this study.

The predominant plan of organization has changed from the 8-4 type to the 6-6 type during the past ten-year period.

The enrollment in the elementary grades has remained practically constant.

The high school enrollment has doubled.

The teaching load per teacher has increased.

Ten years ago only 10 per cent of the township principals held a Master's degree as compared with 24.1 per cent today.

The total number of years of educational experience of the principal has increased 2.2 years since 1922.

Holland, William S. *A Study of the Negro Teaching Personnel in Houston, Texas*. August, 1933. Pp. 70. (No. 147.)

**PROBLEM.** The purpose of this study was to set forth important facts regarding the Negro teachers in the public schools of Houston, Texas, placing special emphasis upon: (a) personal social, and economic status, (b) education, professional training, and certification, (c) experience and tenure, and (d) salaries and teaching load.

**METHOD.** There being no records or reports available, the questionnaire method was chosen as a means of securing information. Out of the 299 questionnaires sent to the Houston teachers, 153 usable replies were received. These replies were carefully analyzed and a comparison was made with six similar studies.

**FINDINGS.** Out of 153 replies thirty-seven or 24.1 per cent were men and 116 or 75.8 per cent were women.

Forty-four or 28.7 per cent of all Houston teachers were born in Houston. Ninety or 58.8 per cent were born in Texas outside

of Houston. Only two or 1.3 per cent were born in northern states.

The median age for men teachers was thirty-two years, for women 33.7 years and for both sexes 33.6 years.

One hundred one or 66.0 per cent of all Houston teachers were married. Fifty-three or 52.4 per cent of those married had children. The median size of the family was 2.38.

One hundred thirteen or 73.2 per cent were purchasing homes.

Sixty-nine or 45.0 per cent owned automobiles.

Sixty-three or 41.1 per cent saved a definite amount each month.

One hundred twenty or 78.1 per cent had four or more years of college preparation. Two or 1.3 per cent had less than one year of college preparation.

Seventy-five or 62.5 per cent of all teachers were graduates from Prairie View College which is located forty-four miles from Houston. One or .8 per cent of the teachers was a graduate from a mixed college.

One hundred eighteen or 77.1 per cent were not prepared to teach subjects they were teaching.

One hundred nineteen or 78.2 per cent held permanent certificates.

The median number of years' experience for men teachers was nine years. For women teachers, the median was 14.05 years. The median for both sexes was 12.9 years.

The median number of years' tenure for men teachers was 5.46 years and for women teachers it was 7.36 years. The median for both sexes was 6.84 years.

The median annual salary paid men teachers was \$1,200.00. The median for women was \$1,011.90. The median for both sexes was \$1,048.27.

The prevailing teaching load was either ten thirty-minute periods or seven forty-five minute periods.

Hanna, Paul M. *A Problem Book for Prospective Superintendents*. August, 1933. Pp. 119. (No. 148.)

PROBLEM. The specific problem with which this study deals is the making of a

problem book, the problems of which are representative of the problems that confront the superintendents of the school systems of Indiana particularly, and other states generally. In this study, the problems receive emphasis in proportion to the degree of difficulty with which superintendents satisfactorily solve them, this emphasis being indicated by the number of problems of any type included in the study.

METHOD. The research method was followed in the study. The problems used in this study were obtained from Dr. J. R. Shannon, in whose classes in public school administration these administrative problems were submitted for solution. All these problems were classified by general and specific types and the frequency tabulations were made for each of the fourteen classes submitting these problems. The ranks of the general types, of which there were twenty-five, were determined by the frequency with which each type appeared in the totals of the tabulations of the fourteen classes.

FINDINGS. A total of 3,540 problems were classified and tabulated. The general types of problems, as ranked by the members of the fourteen classes, in descending order of frequency, were: "administrative relations with teachers" with a frequency of 876; "management of extra-curricular activities," 283; "student discipline and the superintendent's relation to same," 274; "relations of trustees of superintendents with communities," 255; "improvement of teachers," 236; "relations with pupils," 210; "teachers' marks, testing credits, promotions, and graduations," 188; "curricular organization, administration," 166; "general administration of schools," 144; "personal relations between teachers and administrators," 133; "attendance," 124; "special problems in organization and administration of secondary education," 86; "consolidation, transfers, and transportation," 74; "school finance," 74; "buildings, grounds, equipment, and supplies," 74; "school janitors," 59; "publicity and school spirit," 42; "schedule making," 39; "qualifications and duties of school su-



perintendents," 37; "special services of the school," 37; "records and reports and clerical assistance," 37; "intermissions and supervised play," 32; "state and national inspection, control, and direction," 28; "selection and fitness of school trustees," 26; and "school districts within the city," 6.

Of the 3,540 problems classified and tabulated, 260 were chosen as problems for "The Problem Book for Prospective Superintendents" to illustrate the various types of problems listed in the classification.

Corn, John C. *A Study of the Achievement of Latin and Non-Latin Students of Indiana State Teachers College*. August, 1933. Pp. 58. (No. 149.)

**PROBLEM.** In this study the problem is to learn whether college students who have had training in high school Latin do better work than college students who have not had Latin as a part of their high school training.

**METHOD.** The research method was followed in the study. The registrar's office in Indiana State Teachers College was the source of the data. The college scholarship index of one hundred students who had studied Latin in high school was compared with the scholarship index of one hundred students who had not studied Latin in high school, and whose intelligence ratings as given by the college were the same as those of the Latin group. General scholarship index was considered as well as scholarship index in English, foreign language, mathematics, social studies, and science.

**FINDINGS.** The students who had Latin in high school proved superior to those who did not although there was a low correlation between the amount of Latin and scholarship index in all the subjects, those having three or four years of Latin not doing much better than those with two years of Latin in high school.

The statistical work shows:

1. In comparison of the Latin and non-Latin groups, the general scholarship index of the Latin Group is forty-eight, and of the non-Latin group it is forty-four.

Critical ratio 1.88. Chances in one hundred in favor of Latin ninety.

2. In English, the mean scholarship index of the Latin group is forty-five, and of the non-Latin group thirty-four. The critical ratio 4.73. The chances one hundred in favor of Latin.

3. In foreign language there was a slight difference in favor of the Latin group.

4. In mathematics and social studies the comparison is decidedly in favor of the Latin group.

5. In science the comparison is more favorable for the Latin students than in any other branch, the critical ratio being 6.38, indicating that in one hundred chances out of one hundred the true difference is greater than zero.

Selsam, William C. *Housing of Men Students, Indiana State Teachers College*. August, 1933. Pp. 99. (No. 150.)

**PROBLEMS.** This study was undertaken with a threefold intention: first, to provide facts relating to the housing of men students at the Indiana State Teachers College that may be of value to this institution's administrative officers; second, to survey and compare certain other educational institutions in Indiana with regard to their administration of the housing of men students at the respective institutions, including the use of supplementary printed forms; third, to determine, if possible, the need of a men's residence hall at the Indiana State Teachers College.

**METHOD.** The data in this study were obtained by questionnaire, by interviews, by observations, by visits, by letters, from college records, and from college catalogs.

**FINDINGS.** Of the eight colleges and universities in Indiana that were surveyed and compared, besides the Indiana State Teachers College, six provide residence halls for their respective men students. Two schools do not own men's residence halls. All men students at the University of Notre Dame stay in the residence halls of this institution, but four of the other schools have provided their residence halls principally for freshmen, although accept-

ing the other classmen. Three schools of the eight do not keep lists of approved rooming houses.

A compilation of certain data showed that the following rubrics were mentioned the most times by the men students rooming: cleanliness, distance, light, price, and quietness. These rubrics should be the basis for approval of rooming houses on both the part of the student and the school.

The writer recommends to the Indiana State Teachers College that to each rooming house students desiring a room at the beginning of any quarter a mimeographed list of rooming houses be given.

The writer also believes that a definite list of essential contents for rooms in rooming houses should be prepared and distributed to new men roomers.

It is recommended that the college use questionnaires in the collection of housing material and data.

There are certain improvements needed among the rooming houses such as, screens, telephones, bathtubs, and toilets. A number of students evidently are not sleeping sufficiently.

A study of the grades collected by the writer for the different types of housing seems to indicate that the fraternities make the worst grades, resident students next, with commuting and rooming students about equal.

The writer believes that the Indiana State Teachers College should have a residence hall for its men students. Approximately one-half of the students answering the writer's questionnaire indicated that they favored a dormitory for men students. The writer does not believe that such a residence hall must necessarily be of large size; rooms for fifty men students might prove sufficient. The main consideration is to be reasonable in the prices charged for rooms.

Andrew, Glenn T. *The Status of Health Education in the Class A Teachers Colleges of the United States in 1931-1932*. August, 1933. Pp. 58. (No. 151.)

**PROBLEM.** This study was undertaken with the purpose of investigating health

education in the Class A teachers colleges of the United States. The problem was considered strictly as an educational problem, without reference to physical equipment.

**METHOD.** The research method was followed in the study. Bulletins were secured from all the 116 colleges which composed the American Association of Teachers Colleges with Class A ranking for 1931-1932. The bulletins were diligently searched for all information pertaining to health education. The information was compiled and analyzed.

**FINDINGS.** Eighteen colleges were found to make no specific health requirements of students at entrance. Thirty-seven colleges were found to require a health certificate at entrance.

General medical examinations were found to be made by the college faculty physicians in fifty-three colleges, by physicians merely retained by the college in thirteen of the colleges, by a physician retained by the women's department of physical education in one college, by a graduate nurse in two colleges, and by the physical education department faculty in one college.

Special examinations were found to be given in twenty-one colleges, and by college faculty physicians only.

Twenty-four specific services other than examinations were found to be rendered by the college faculty physicians.

Health faculty qualifications were found to be high, with the degrees M. D., M. A., R. N., and B. S., predominating.

Health instruction courses were found with low mean and median frequency in each individual subject in which health courses were found to occur. There were found to be more colleges offering no health course in each subject than colleges offering any particular number of health courses in any particular subject. The high frequency of health courses in physical education, biological science, and health was found to be high, while the high frequency of health courses in home economics, chemistry, and education and psychology combined was not found to be

high. Health courses were not found in other subjects. Health courses in all subjects combined were found to occur with a mean frequency of 11.580, a median frequency of 10.200, a mode of 6, a high frequency of 62, and a grand total frequency of 1341.

Twenty-one specific health courses were found.

Physical education courses other than direct health courses were found to be offered separately to men with a total frequency of 521, to women separately with a total frequency of 506, to men and women together with a frequency of 342; and the total frequency of all these physical education courses was 1369.

Integration of auxiliary health courses was found to exist in all subjects in which health courses occurred, and it also extended to include sociology, geography, English, music, and industrial arts.

Manhart, F. Burgett. *A Comparative Study of the Success of Terre Haute High School Graduates at the Rose Polytechnic Institute and the Indiana State Teachers College*. August, 1933. Pp. 59. (No. 152.)

**PROBLEM.** The major purpose of this study was to determine the comparative success achieved by the Terre Haute high schools in preparing their students for college, as measured by the success of their graduates in their first-year work at Rose Polytechnic Institute and the Indiana State Teachers College. When that success was determined, the purpose of the study was: first, to determine whether the students from any one high school, as a group, do distinctly better work than those from any of the other high schools; second, to compare the work done by the graduates from the small high school, the State Training School, with that done by the graduates from the large high schools; third, to compare the work done by the graduates from the trade school, Gerstmeyer High School, with that done by the graduates from the academic high schools; fourth, to determine whether students who are graduated from any one course of study are bet-

ter prepared for college work than those from other courses of study.

**METHOD.** The survey method of research was followed in the study. The marks made by local high school graduates at the Rose Polytechnic Institute and the State Teachers College for the years 1928-1932, inclusive, were tabulated according to the high school from which they came. The mean, median, standard deviation, and reliability of these measures were then determined for each high school, and for each high school course of study. The marks received by these same students while in high school were also compared with the average of their respective high school classes to determine whether representative groups enrolled at the two colleges from our local high schools.

**FINDINGS.** The average of those students graduated from our local high schools and attending the Rose Polytechnic Institute and the State Teachers College is above the average of the students in our local high schools.

The students from our small high school, the State Training School, are better prepared for the work at the Rose Polytechnic Institute and the State Teachers College than those from any of the large high schools, as judged by their records at these two colleges.

Those students from the trade school, Gerstmeyer High School, are most poorly prepared for the work at the State Teachers College than those from any other high schools, while those students from Wiley high school are the most poorly prepared for the work at the Rose Polytechnic Institute, as judged by their college records. This last fact is also borne out by the larger percentage of failures from Wiley high school than from any of the others.

The number of students who do unsatisfactory work at the Teachers College is much too large with the possible exception of those from the Training School. This, combined with the large number of failures at the Rose Polytechnic Institute, shows the need for more guidance by the high school faculties.

The students from an academic high

school course are best prepared for college work, with those from a commercial course of study a close second, as judged by their records at the State Teachers College. Those students from the practical arts courses are least prepared for academic college work.

Our limitation should be especially noted for all findings. The lack of intelligence quotients for all students included in the study makes it impossible to say whether the students from the State Training School may not rank higher in native intelligence than those from Gerstmeier, and the other two high schools. The small number of students attending the Rose Polytechnic Institute from the State Training School and the Gerstmeier High School also invalidates, to a great extent, the reliability of the measures of those students attending the Rose Polytechnic Institute.

Higgins, Hope V. *A Study of Scholarship and Related Factors of Kappa Delta Pi Members at Indiana State Teachers College for the Years 1926-1932*. August, 1933. Pp. 57. (No. 153.)

**PROBLEMS.** One of the principal purposes of this study was the consideration of the scholarship indices of members of Kappa Delta Pi to aid in determining new eligibility requirements, which would use the scholarship index as a basis. Other purposes were: to determine whether there was any appreciable difference in the scholarship of members before and after election, to study the relationship of intelligence and scholarship among members, to compare academic and professional scholarship, to find out how the members were distributed among the major departments of the school, and to determine the distribution of members among the counties of the state.

**METHOD.** Approved statistical procedures were used throughout the study. Data concerning the members of the society were collected on individual data sheets. Sources of data were the office of the registrar and the office of the dean of the college. Each of the problems mentioned

was analyzed in a separate section of the study.

**FINDINGS.** The mean scholarship index of members of the society was found to be  $86.71 \pm .25$ . Standard deviation of the group was 5.81, indicating that 68 per cent of the members ranged between 80.90 and 92.52 in scholarship. The lower of these limits 80, is the index which is recommended for eligibility for election to Kappa Delta Pi. Comparing Kappa Delta Pi scholarship with school scholarship (existing measures of school scholarship), Kappa Delta Pi scholarship was found to rank well above the average.

Scholarship of members is usually higher after election to membership than it is before election. There is greater variability in the scholarship of the group after election than before election. Correlation between scholarship before election and scholarship after election is low, indicating changes in the comparative ranking of the group after election.

The mean intelligence percentile of Kappa Delta Pi members is  $83.23 \pm 1.05$ . Average intelligence of members is far above the average of the school. Average scholarship is higher than average intelligence, but this difference is not entirely reliable. The group is extremely variable in intelligence, more than three times as variable as it is in scholarship. Correlation between intelligence and scholarship is extremely low, the coefficient of correlation,  $.2027 \pm .0530$ , being lower than coefficients between scholarship and intelligence reported in other studies.

Academic scholarship averages higher than professional scholarship. Variation of the group is practically the same in professional and academic scholarship. Correlation between academic and professional scholarship is high.

No conclusion was reached in the study of major subject of Kappa Delta Pi members, because of lack of information concerning the number of students in the school majoring in each subject.

Forty-eight counties, from which 10.8 per cent of the students in the school came, had none of their students elected to Kap-



pa Delta Pi. Forty-three counties listed 87.9 per cent of the total enrollment of the school and 94.34 per cent of the membership. Illinois students comprised 1.80 per cent of the total enrollment and contributed 3.64 per cent of the Kappa Delta Pi membership. Other states involving only .46 per cent of the school enrollment contributed only 2.02 per cent of the membership.

Jardine, Alex. *Differences in Achievement between Elementary School Groups in High School Subjects and Prognosis of Semester Marks.* August, 1933. Pp. 55. (No. 154.)

**PROBLEM.** The study was made with a twofold purpose: First, to make comparisons in the achievement of pupils who entered Boss High School from four Evansville elementary schools. The comparisons were made on the basis of semester marks made in English and social studies throughout the high school course. Second, to develop measures for predicting probable success in English and social studies in semesters following the initial one in high school. The predictions were made on the basis of first semester marks.

**METHOD.** The statistical method was used in this study. Five hundred and three members of four graduating classes all of whom had entered from the four elementary schools forming the Bosse high school district, were the subjects of the study. The four schools were: Bosse elementary, Campbell, Howard Roosa, and Stanley Hall. A data card was prepared for each pupil showing his name, the elementary school from which he entered, his year of graduation, his semester marks in English, his semester marks in social studies, and his high school average. These data were analyzed, first by comparing similar groups on the basis of the relationship between their means, and second, by a study of the relationship between 9B marks and later semester marks.

**FINDINGS.** Stanley Hall made the highest English marks as a group.

Howard Roosa made the lowest English marks as a group.

The critical ratio showed the difference between the means of the groups in English marks to have real significance consistently, only between Stanley Hall and Howard Roosa, and always in favor of the former.

Stanley Hall made the highest social studies marks as a group.

Howard Roosa made the lowest social studies marks as a group.

The critical ratio showed the difference between the means of the groups to have real significance consistently, only between Stanley Hall and Howard Roosa, and always in favor of the former.

A greater percentage of high marks were given in English than in social studies.

The improvement over chance in predicting semester marks from a single factor was slight.

The prediction of semester marks from two factors was an improvement over the use of only one factor.

The addition of factors tends to improve prediction.

The use of first semester marks in predicting later semester marks is valid, but the reliability of the prediction depends largely on the number and character of the predictive factors.

Switzer, Charles Z. *A Study of the Causes of Delinquency with Special Reference to the Boys at the Indiana Boys' School.* August, 1933. Pp. 57. (No. 155.)

**PROBLEM.** This study was undertaken with a twofold purpose: first, to determine what were the causes of delinquency; second, to suggest means of preventing future delinquency.

**METHOD.** Both the survey method and the case-study method were used. The items on 379 history cards of the boys at the Indiana Boys' School were copied and made into tables and graphs. These tables and graphs were analyzed and checked against the finding of other studies.

Case-studies were made of three delinquent boys of Terre Haute. Data for these case-studies were secured by interviews with the boys, the boys' parents, teachers, and officers. The case-studies

included the following parts: family history, school history, special abilities and disabilities, personality, health, disciplinary record, and diagnosis.

**FINDINGS.** Boys with low I. Q.s are more often delinquent than are either normal boys or boys with high I. Q.s.

Stealing is the delinquent act which occurs most often.

Homes with drinking parents' foster delinquency among the youth.

The broken home is an outstanding cause of delinquency.

Poverty is both a direct and an indirect cause of delinquency.

Bad associates lead boys to become delinquents.

Retardation in school should be regarded more as a sign of other causes of delinquency than as a cause within itself.

Illegitimacy is an indirect rather than a direct cause of delinquency.

Migration is a contributing factor to delinquency.

Certain unfavorable or degrading community conditions are causes of delinquency.

Delinquency has its beginning in early youth and is persistent in its nature.

Criminality is not inherited.

The physical condition of the boys is not shown to be a cause of delinquency.

Delinquent conduct may exhibit itself in a number of acts and combination of acts.

There is more delinquency among families where the fathers are day laborers than in families where the fathers are engaged in any other occupation.

Adult education will be a long stride toward decreasing delinquency.

The influence of the church in preventing delinquency is inconsiderable.

The foreign-born are not delinquent in as high a ratio as are the native-born.

The Y. M. C. A. and the Boy Scouts have few boys who are delinquents but their memberships are also few in number.

Many boys who have become delinquents have attended Sunday School.

Many factors are associated with each delinquent case each of which is different

from every other case.

One should not try to diagnose a case from outward signs only.

Social environment needs to be controlled in order to decrease the number of cases of delinquency.

Those who direct the educational program need to make an analysis of the causes of delinquency. They must then endeavor to devise methods which will cope with these causes in a manner that will place the youth in an environment with fewer cases of maladjustment.

Graham, Ross R. *Recent Investigations in the Field of Secondary Biology*. August, 1933. Pp. 203. (No. 156.)

**PROBLEM.** This study was pursued with the following purpose in view: To make digest of the recent investigations in secondary biology in order that the findings gleaned might be used to determine what to teach, how to teach, and how to instruct others to teach more efficiently.

**METHOD.** From more than 400 investigations made in the field of science during the seven years, 1926 to 1933, digests were made of experimental biological investigations deemed worthy by being accepted for publication in the various scientific and educational magazines. All that contributed to the problem as defined above were included. As a result, thirty secondary biological investigations were given a rather detailed review, and forty-eight briefs of related sciences are included in the appendix for verification. From these data conclusions were drawn and recommendations were made.

**FINDINGS.** 1. It is necessary to study subject matter and method together.

2. Our viewpoint is changing from considering subject matter as the all important thing to recognizing the importance of the child as an individual.

3. Objective evidence should be used to select the essential subject matter in the school curriculum.

4. The best curriculum would include the contributions from the field of philosophy, psychology, and educational research,

as well as from the subject matter specialists and the classroom teachers.

5. The major objectives should be to acquire an appreciation and a knowledge of the contributions which biology has made to the progress of mankind, to gain skills, new emotionalized standards, ideals, and tastes. Then, impelled by a true scientific attitude, to acquire the habits or tendencies that will cause them to apply all these principles to their individual and social welfare.

6. At the present time biology is largely confined to one grade, usually the tenth, but there is need that its principles be taught throughout the entire school period.

7. There is evidence favoring the psychological method.

8. For the sake of economy in apparatus and time, more demonstrations by teachers and pupils should be used.

9. Teacher-demonstrations should be used in the beginning of a course and teacher- and pupil-demonstrations should be used also throughout advanced classes.

10. There is a vital need for individual and group laboratory experience early in a course.

11. Laboratory work should be planned for the development of skills and problem solving; we should not depend on the stereotyped laboratory manual.

12. The spirit of rivalry or the competition with one's own record is a valuable stimulus.

13. Visual aids such as teachers diagrams, prints, glass-slides, film-slides, and motion pictures produce outstanding economies in time and effort.

14. Each method has some peculiar value of its own; it is well to use as many methods as possible when they are particularly adapted.

15. There is need of further intensive research to establish just what subject matter and what methods should be used for each grade, condition, and type of child.

Rappaport, Minna. *A Critical Analysis of the Markings Recorded on the Adopted Supervisory Sheet of the Division of Student Teaching at the Indiana State Teachers College*. August, 1933. Pp. 60. (No. 157.)

**PROBLEM.** The study was made in order to try to discover: first, the weighting of the several major items on the supervisory sheet as indicated by markings so as to learn which factors were most potent in determining marks; second, the method the supervising teachers employed in arriving at the final grades (by averaging the several items, by attaching heavier weight to some items than to others, or by any other process); and third, the relative pre-potency of the various sub-items in determining the total ratings. Explanations and suggested recommendations were offered as to the use of various sub-items.

**METHOD.** The study was made on the following levels: senior high school, junior high school, intermediate grades, primary grades, and all levels combined. The ratings of three hundred student teachers appearing on the official supervisory sheets which were adopted at the Indiana State Teachers College in the winter of 1932 and which are now in use by the division of student teaching were the basic materials. The standard numerical values used by the college were attached to every sub-item marked under the major items: A equals 4 points, B equals 3, C equals 2, D equals 1, and F equals 0. The sum of the points earned under each major heading was divided by the number of points which the supervising teachers had checked in order to determine the rating for the major items. Total average ratings also were found.

When these numerical values for all three hundred cases were calculated, the Pearson product-moment formula was employed to determine the correlations between the major items and the total average ratings and between the total average ratings and the final grades given by the supervising teachers.

As a second step in the study, a record

was kept of the number of times the various sub-items had marks the same as the final grades, higher or lower than the final grades, or were unchecked.

**FINDINGS.** The correlation coefficients between credit points in major items and total credit points ranked in magnitude as follows when all levels were considered: first, teaching; second, preparation; third, personal; fourth, management; fifth, professional attitude; and sixth, pupil results. This study suggests that teaching, as would be expected, was of prime importance in determining the student teachers' total ratings. There was a tendency, however, to place emphasis upon some of the other items within the various levels.

Correlation coefficients between total ratings and final marks show that the correlation was high between the supervisory sheet totals and the marks for all groups. It appears that the supervisory sheet is important in determining the final marks.

The following sub-items had the same grades as the final grades in at least three-fifths of the cases studied, and of all the items given on the supervisory sheet these were the most important in determining the final grades: Mental alertness, resourcefulness, forcefulness, adaptability, knowledge of subject matter, knowledge of teaching steps, ability to plan work, definite objectives, appropriate subject matter or activities, relating assignment to known, cooperation, proper directions, adaptation to learning types, adaptation to child needs and abilities, effective motivation, developing ability or skill, increased interest, and achievement.

Michael, Curtis B. *Comparative Cost of Education and Other Functions of Government in Indiana and Illinois*. August, 1933. Pp. 79. (No. 158.)

**PROBLEM.** This study was undertaken with a twofold purpose: first, to discover the amount of money spent and to show the various purposes for which it was spent; second, to interpret the meaning of the cost of education in relation to the

cost of government in the light of the legal, social, and economic data available.

**METHOD.** The governmental functions were divided into three major aspects: education, highways, and all other costs. The educational functions were compared on the following basis: pupil enrollment, number of teachers, value of school property, school debt, and length of school term. The data used were obtained from: committee reports, reports of state superintendents of education, reports of state auditors, United States Census Bureau, United States Department of the Interior, and the United States Department of Agriculture. An analytical discussion was made of the major topics. The total costs of the different functions were used and the period studied was from 1920 to 1930.

**FINDINGS.** Indiana spent for education in 1930, 37.5 per cent, \$22.23 per capita out of a total per capita of \$59.34, a ten year decrease of 4.8 per cent.

Illinois spent for education in 1930, 30.6 per cent, \$21.24 per capita out of a total per capita of \$69.43, a ten year increase of 2.0 per cent.

The county groups of Indiana spent for education in 1930 33.2 per cent, a ten year increase of 2.9 per cent; the county groups of Illinois spent for education in 1930, 43.4 per cent, a ten year increase of 1.1 per cent.

The cost of education has increased along with the other governmental costs; yet there was a slight decrease in the percentage of the cost of government going to education in the ten year period.

Education cost more than any other function of government. The largest item of cost for education was that for instruction. Indiana spent for instruction in 1930, 50.5 per cent, a five year increase of 5.3 per cent; Illinois spent for instruction in 1930, 51.8 per cent, a five year decrease of 2.6 per cent.

Taxes and appropriations represent about ninety-five per cent of the source of revenues for education.

The value of school property per pupil enrolled, during the ten year period, for Indiana increased one hundred per cent;



the school debt per pupil enrolled increased ninety-nine per cent.

The value of school property per pupil enrolled, during the ten year period, for Illinois increased 107.9 per cent; the school debt per pupil enrolled increased 125.6 per cent.

The pupil enrollment for Indiana in 1930 was 667,379, an increase of 17.8 per cent from 1920.

The pupil enrollment for Illinois in 1930 was 1,395,907, an increase of 23.8 per cent from 1920.

The ten year increase in number of teachers was: for Indiana, 26.9 per cent; for Illinois, 30.5 per cent.

The increased costs for education have been due both to an enlarged curriculum and to the increase in pupil attendance. This is especially true in the cases of the high school.

Kirkham, Joe. *A Comparative Study of the Salaries of High School Teachers of Indiana*. August, 1933. Pp. 66. (No. 159.)

PROBLEM. In what respects are the differences in the salaries of high school teachers due to the following factors: (1) experience, (2) amount of training, (3) high school subjects taught, (4) size of the enrollment of the high school where the teaching is done, (5) college attendance or graduation?

The solution of this problem required the securing and examining of data concerning the salaries of all the high school teachers in the state of Indiana. High schools with enrollments of more than five hundred were not considered in this study.

METHOD. Data were secured from the high school report which is filed annually with the director of the division of elementary and high school inspection. The school year 1929-1930 was used. The data were arranged in frequency tables for different years of experience, different amounts of training, different high school subjects taught, different enrollment of high schools, and different colleges attended by teachers. A study of the significant

differences between the means of the salaries was made.

FINDINGS. Salaries increase with years of experience until about the twentieth year. During the next five years (twenty to twenty-five) salaries are significantly lower than the preceding five years (fifteen to twenty). From twenty-five to thirty-five years, however, salaries again rise with each added year of experience. The correlation between salary and experience is  $.23 \pm .01$ . The correlation between salary and one to twenty years experience is  $.27 \pm .01$  while the correlation between salary from twenty-five to thirty-five years' experience is  $.35 \pm .04$ . The better salaries are paid between five and ten years of experience and after thirty-five years of teaching.

There is not much difference between the salaries of under-graduates and those with four years of training. There is a significant difference between a teacher with four years and one with four and one-half years training, in favor of the four and one-half years training. Each additional semester's training produces a significant increase in salary over the previous training until one and one-half years of training has been added to the bachelor's degree. Disregarding experience, a low degree of correlation,  $.17 \pm .01$ , was found between salary and training. The average high school teacher has four and one-fourth years of training.

The highest paid subject was agriculture; it was significantly higher than any other subject. The order of the salaries was agriculture, physical training, industrial arts, social studies, home economics, science, mathematics, and language. The lowest paid subject was commercial. There was not much difference between English, commercial, and the fine arts subjects.

The trend of salaries was upward with the size of the enrollment of the high school. The mean salaries of the smaller schools was about three-fourths that of those in the larger schools.

The mean salaries of teachers trained in Purdue are significantly higher than those trained in any other college in the

state. Teachers trained in these schools receive the highest salaries: Purdue, Franklin, Indiana State Teachers College, Indiana University, and Wabash. Teachers from these schools received the lowest salaries: Manchester, Oakland City, Ball State Teachers College, and Central Normal. The Indiana State Teachers College had the largest number of former students teaching though Indiana University was a close second.

Kessel, William G. *The Trends in High School Chemistry Since 1933*. August, 1933. Pp. 82. (No. 160.)

**PROBLEM.** The purpose of this study was twofold: first, the construction of a cross-indexed bibliography of the literature dealing with the teaching of high school chemistry since 1923; second, to point out the trends in aims, subject matter, and methods of high school chemistry instruction as revealed by the study of literature included in the cross-indexed bibliography.

**METHOD.** The development of a cross-indexed bibliography was accomplished by the compilation of as extensive a bibliography as possible on the topics dealing with the teaching of high school chemistry through the use of *The Education Index*, *The Reader's Guide*, and *The Record of Current Educational Publications* by the Department of Interior, U. S. Office of Education. Then all the articles included in this bibliography were read and digested; during the reading of these articles the writer found many other references which were added to this bibliography. When all the articles included in this bibliography had been read they were prepared in an annotated bibliography. With the digests prepared by reviewing these articles, the articles were classified on basis of content using an arbitrary classification. This classification was developed through the reading of *The Teaching of High School Chemistry* by J. O. Frank and *A Program for Teaching Science* by The National Society for the Study of Education.

The trends in aims, subject matter, and methods were revealed as a result of this

study of the material contained in these articles which are listed in the bibliography.

**FINDINGS.** The number of articles included in the annotated bibliography was 203.

Of the 203 articles 114 were research studies and 89 were discussion articles.

Only fifty per cent of the articles were written by actual high school teachers, the other fifty per cent by college, university, and unknown professions.

Presentation of an annotated bibliography of 203 articles dealing with the teaching of high school chemistry, and a cross-indexed bibliography developed from the former which enables one to locate easily and readily desired articles on the phases of high school teaching included in the literature from January 1923 to July 1933.

A summary of the trends in the teaching of high school chemistry revealed that many new ideas and concepts have and will continue to influence the teacher namely:

First, the recognition of the necessity for the application of scientific methods of research to the problems confronting the high school teacher.

Second, there is a need for uniformity of aims, in order to establish a closer relationship between teachers and to effect an improvement in instruction. The most important thing is the change from subject centered to pupil centered type of instruction, which recognizes the pupil's needs and interests more than ever before.

Stimson, Helen E. *An Analysis of the Possible Uses of the Scholarship Index at Indiana State Teachers College*. August, 1933. Pp. 87. (No. 161.)

**PROBLEM.** This study was undertaken to show some possible uses for the scholarship index at Indiana State Teachers College. The scholarship index was used as the basis of comparison in the following comparative studies: the scholarship indexes of students according to the curriculum elected; the scholarship indexes of students according to classes; scholarship indexes and marks in supervised teaching; the scholarship indexes of students partici-

pating in extra-curriculum activities compared with the scholarship indexes of those not participating; scholarship indexes and psychological percentiles; the scholarship indexes of students engaged in outside work compared with those not engaged in outside work; and, the scholarship indexes of organized and unorganized students.

**METHOD.** The research method was followed in this study. The scholarship indexes of 1,753 students were obtained from the registrar's office at Indiana State Teachers College. Psychological percentiles of 1,715 students were obtained. Enrollment according to curriculum and class, supervised teaching marks, and data on participation in extra-curriculum activities were obtained from the registrar's office. Data on students engaged in outside work and students belonging to sororities or fraternities were obtained from the dean of men and the dean of women.

**FINDINGS.** 1. On the average, students enrolled on the four-year elementary curriculum have significantly better scholarship indexes, and those enrolled on the physical education curriculum significantly poorer, than those on any other curriculum. Special music students have, on the average, somewhat better scholarship indexes. Students on the A. B. and art curriculums have significantly higher scholarship indexes than those on the B. S. and rural curriculums, respectively.

2. In general, scholarship indexes increase in size with progress through college.

3. There is some relation between scholarship indexes and supervised teaching marks. (Coefficient of contingency equals 0.44.)

4. In general, students participating in extra-curriculum activities have higher scholarship indexes than those not participating.

5. The correlation between the cumulative scholarship indexes of all students in school and their freshman psychological percentiles is low. ( $r$  equals 0.07.)

6. The difference between the mean scholarship index of students doing outside

work and the mean scholarship index of those not doing outside work is very small ( $0.57 \pm 0.68$ ).

7. In general, the average student belonging to a sorority or fraternity has a significantly higher scholarship than the average student not belonging to a sorority or fraternity.

Ward, Herman J. *A Study of One Thousand Problem Children of the Elementary Schools Selected by Their Teachers as Problem Children.* August, 1933. Pp. 45. (No. 162.)

**PROBLEM.** This study was undertaken with a threefold purpose: first to determine how teachers classified problem cases; second, to determine the effect various factors had upon the number of problem cases; third, hoping to get teachers and educators more interested in problem children.

**METHOD.** The research method was followed in this study. A part of the data used in this study was gathered from teachers by a class in the study of problem children under the direction of Dr. J. R. Shannon of Indiana State Teachers College of Terre Haute, Indiana. The remainder was collected by the writer who interviewed teachers concerning problem cases they had had in their experience as teachers. The data were carefully tabulated by the writer into eleven frequency tables and the results shown by each table discussed briefly.

**FINDINGS.** Of the types of problem cases in this study 47.6 per cent were classified as mentally deficient, 25.4 per cent as disciplinary, 9.1 per cent as physically unstable, 8.4 per cent as mentally superior but maladjusted, 6.8 per cent as socially maladjusted, 1.2 per cent as poor vision, 1.0 per cent as lazy, .3 per cent as poor hearing, and .2 per cent as cripple.

Special education of all types of handicapped children is almost wholly confined to cities.

Comparatively few problem children have the advantage of early discovery treatment, and training.

Finally according to this study the

greatest number of problem cases are: (a) in the seventh grade; (b) fourteen years of age; (c) boys; (d) average size; (e) white; (f) between the oldest and youngest in family; (g) living with both parents; (h) from various types of schools; (i) from all types of communities in about equal proportion; (j) from various industries; (k) mentally deficient.

Soules, Gertrude F. *The Relation of Certain Personal Attributes and Certain Teaching Abilities to the Success of Student Teachers in Classroom Management*. August, 1933. Pp. 56. (No. 163.)

**PROBLEM.** The study was undertaken with a threefold purpose; first, to ascertain the ideas of student teacher directors, supervisors, superintendents, and college professors on the five personal attributes and the five teaching abilities which affect the student teacher's ability to manage a class; second, to find the correlation of each of these selected personal attributes, and of each of the selected teaching abilities and the grades in classroom management given the student by his supervising teacher in classroom management; third, to find the relationship between grades made in college courses in classroom management to the grades given student teachers by supervising teachers in supervised teaching in classroom management.

**METHOD.** The research method was followed in the study. Twenty-five supervisors, student teacher directors, and college professors were asked to check on the score sheet used by the Indiana State Teachers College the five most important personal attributes and the five most important teaching abilities which they thought most affected the student's ability to manage a class. These personal attributes and teaching abilities were then tabulated and ranked in the following order: personal attributes—self-control, intelligence, health, mental alertness, resourcefulness; teaching abilities—definite objectives, appropriate subject matter, assignment, directing pupil activities, organization, (a) of subject matter (b) of activities.

The grades of 663 student teachers in

each of these selected personal attributes and each of the selected teaching abilities were then correlated with classroom management grades.

The college course classroom management grades of 309 students were correlated with the classroom management grades given by supervising teachers to students who had not had the course in classroom management in the college.

**FINDINGS.** The five selected personal attributes and the five selected teaching abilities are closely related to the teacher's success in classroom management.

The supervising teachers who graded these students recognize the fact that the selected personal attributes and the selected teaching abilities are important in their relation to classroom management, but they do not rank them in the same way as was selected. The ranking of the personal attributes by the supervising teachers is: mental alertness, self-control, intelligence, resourcefulness, and health. The ranking of the teaching abilities is: directing pupil activities, organization assignment, appropriate subject matter, and definite objectives.

Personal attributes are more closely related to classroom management than are teaching abilities.

Courses in classroom management in the college are not closely related to classroom management in supervised teaching.

Students who have not had classroom management in the college manage their classes in supervised teaching as well or better than do those who have had the course in management in the college.

Jones, Mary V. *Health Habits of Senior High School Girls*. June, 1934. Pp. 61. (No. 164.)

**PROBLEM.** The purpose of this study was to find the actual health practices of high school girls. The results may be used (1) to plan a course of study in health education; (2) to survey a local situation to discover whether the teaching of this subject has been a success or a failure;



and, (3) to indicate where emphasis is needed in health education.

**METHOD.** A questionnaire was prepared by combining suggested units from standard texts in health education. The practices accepted by a majority of textbooks were grouped into topics and questions pertaining to each unit were devised. These questionnaires were sent to the teachers of health and physical education in eleven senior high schools of Indiana. Health practices were recorded and tabulated for 990 girls. Desirable habits as well as undesirable habits were checked for sophomores, juniors, and seniors. From this record percentages were worked out for each habit by classes, percentages for each class, and total percentages for the eleven schools.

**FINDINGS.** Eighty-four per cent of the 990 girls ate three regular meals daily but eighty-two per cent ate "sweets" between meals. The eating habits of sophomore girls seemed to be more desirable than those of the senior class.

Sixty-six per cent of the girls slept eight or more hours each night but sixty-one per cent had irregular sleeping hours.

Eighty-two per cent stated that they preferred outdoor recreation, but this preference was to be contrasted with the actual practice in which only fifty-three per cent worked or played outdoors two hours daily.

Habits during the menstrual period seemed good with the exception that only fifty per cent of the girls took a daily bath. Twenty-nine per cent did not go to their parents for sex information.

Nineteen per cent of the group had faulty elimination with twelve per cent depending upon laxatives.

Sensible clothing was worn by ninety-two per cent; however, twenty-four per cent wore poorly fitting shoes or shoes with high heels.

Excellent care was given to skin, nails, and hair. Bathing at least three times a week was practiced by seventy-four per cent of the group. Although ninety-three per cent were "tooth brush conscious" only fifty-two per cent went to the dentist for a yearly examination. Twenty per cent

were aware of nose or throat defects which needed correction.

Only forty-one per cent of the girls had had a physical examination during the year and this examination was a yearly occurrence for only thirty per cent of that number. Forty-three per cent knew of physical defects which they should have corrected. Many students had not been immunized against disease. Persistent physical pain was suffered by twenty-one per cent and forty-one per cent were troubled with colds. Only eleven per cent recorded the use of cigarettes.

The group lacked ability to render first aid treatment for the simplest injuries. Safety habits ranked high with the exception of swimming practices.

The mental health habits of the girls were good. A large number, sixty-three per cent, worried about school work. In lesser degrees they avoided disagreeable duties, were unable to control feelings when disappointed, lacked persistence, and were ill at ease in social activities.

Worley, Ralph L. *Educational Publications of Caleb Mills.* January, 1934. Pp. 110. (No. 165.)

**PROBLEM.** This study was undertaken with a twofold purpose: first to bind into one volume synopsis and excerpts of all educational publications of Caleb Mills showing the manner in which he presented his ideas on education to the people and to arouse them to their obligation to their children; second, to show by direct quotations and a close following of the author's words the beautiful manner and ease of expression and sincerity of purpose of this pioneer educator, who sought his just reward in the welfare of his fellow citizens.

**METHOD.** The historical method was followed in the study. Diligent search was made in several libraries of the state to find all the individual educational publications of Caleb Mills. Each publication was gone over carefully, the important points selected, and the outstanding quotations directly quoted to show the manner and style of expression. A short life history of Caleb Mills followed by a review of the Indiana school system between 1840 and

1850 preceded the study of the publications. This review was given to characterize the conditions and the period leading to the published articles. Personal interviews with a few of Caleb Mills' friends and a cross index of his ideas concerning different phases of education complete the study.

**FINDINGS.** Caleb Mills came to Indiana and discovered an appalling state of ignorance, caused by the lack of educational opportunity in the meager school system. He published a series of articles upon popular education. These, after being widely distributed, so aroused the people of the state to their civic responsibility that organized public opinion forced legislators to enact laws, which gradually lifted Indiana from its lethargy of ignorance. Mr. Mills administered the great constructive work in such a manner that the school system of the state today contains innumerable features advocated by him in those early days. Distressed school men of late years can get many helpful suggestions from the ideas of Caleb Mills. He deserves the name, "Father of the Indiana School System."

Smith, Harry C. *A Personnel Study of the Teachers of Parke County, Indiana*. March, 1934. Pp. 90. (No. 166.)

**PROBLEM.** The purpose of this study is to set forth important facts regarding the teachers in the public schools of Parke County, Indiana, placing special emphasis on their ages, occupation and economic status of the family from which each comes, training (both general and professional), and experience

**METHOD.** The lack of any existing data bearing directly upon the problem in the form of records or in reports forced the writer to resort to the questionnaire as a means of securing necessary information for making this study. The difficulty in securing objective data on all items included was fully realized.

**FINDINGS.** The ages of the 148 teachers range from twenty to sixty-seven, inclusive. The median age of the fifty-nine men is

29.9 years, while the median age for the eighty-nine women is 29.0 years.

Fifty-seven and four-tenths per cent of the teachers according to their own statements, are enjoying excellent health, while 40.5 per cent are enjoying good health.

The nationality of 80.4 per cent of the fathers and 80.8 per cent of the mothers of the teachers is American.

Eighty and five-tenths per cent financed their higher education themselves. Forty-five and nine-tenths per cent financed their education by teaching.

A total of seventy-five different magazines are read by this group. Five and four-tenths per cent of this number were farmers' magazines, 10.9 per cent were household, 16.0 per cent were literary, 32.0 per cent were popular, 25.3 per cent were professional, and 10.7 per cent were scientific.

Seventy-two and three-tenths per cent reported regular Sunday School attendance and 62.2 per cent regular church attendance.

The teachers were trained in thirty different normal schools, colleges, and universities. Fifty-four and three-tenths per cent had attended Indiana State Teachers College, fourteen per cent had attended Central Normal, and 6.2 per cent attended Indiana University.

Eighty-eight and nine-tenths per cent of the regular high school teachers and one hundred per cent of the principals hold baccalaureate degrees, while thirty per cent of the principals hold master's degrees. The median of years' training above high school for grade teachers is 2.1 years, for high school teachers is 3.9 years, and for principals is 4.7 years.

Laughlin, Harvey. *Correlation of Marks in General and Special Methods with Marks in Student Teaching*. May, 1934. Pp. 19. (No. 167.)

**PROBLEM.** This study attempts to show the relationship between success in the acquisition of the theory of teaching as shown by the marks given by the teachers of theory courses and success in student teaching as shown by marks given by the di-

rector of student teaching and the critic teachers. This study was made of the marks given in Indiana State Teachers College from 1922 to 1932 inclusive.

**METHOD.** The research method was used. The marks in general and special methods and the marks in student teaching in English, science, mathematics, physical education, social studies, home economics, music, commerce, and industrial arts were obtained from the office of the director of student teaching and the registrar's office of Indiana State Teachers College. The marks in each of the departments were put into scatter diagrams. The mean square contingency method of computing the correlations was used.

**FINDINGS.** The correlations were all low. They ranged from .232 to .504. The correlations were as follows: social studies .504, commerce .406, home economics .400, physical education .377, mathematics .366, industrial arts .360, English .343, music .308, science .232.

The correlation between first term student teaching marks and general and special methods was .314, second term .325, and first and second terms together .371.

Breeden, Archie E. *A Study of the Economic Cost of the Lengthened Period*. May, 1934. Pp. 32. (No. 168.)

**PROBLEM.** This study was undertaken with the purpose of determining the per-pupil cost of the lengthened recitation period and to compare it with the per-pupil cost of the short recitation period.

**METHOD.** The research method supplemented by the questionnaire method was followed in the study. Much of the data was obtained from the state department of public instruction of Indiana and from current writings dealing with the subject of per-pupil costs.

In making this study the schools were divided on the basis of enrollment as follows: Group I, schools having an enrollment of one hundred pupils or less; Group II, schools having from one hundred and one to three hundred pupils enrolled; Group III, schools with an enrollment in excess of three hundred. Each of these three groups

has what the writer termed a control group, which includes a number of schools with class periods forty to forty-five minutes in length and an approximate number of schools with the lengthened class period above forty-five minutes in length. The latter schools were termed the lengthened period group.

Questionnaires were sent to forty-nine schools throughout the state of Indiana with a return from thirty-three or a sixty-seven per cent return.

**FINDINGS** From a study of the tables one finds that almost without exception the cost of the lengthened period is slightly greater than that of the control group or short period. However, the average additional cost is less than three cents per pupil.

The advantages of the lengthened period may be summarized as follows:

a. It simplifies program-making by abolishing all double periods. This places all subjects on an equal basis and means much to the executive in constructing the program.

b. It gives more time to the students and gives the individual attention he should have during this period of his life. This insures better preparation and, therefore, reduces the number of failures. When a pupil prepares a lesson under the teacher to whom he must recite he can ask and get intelligent help.

c. The discipline problem is reduced to a minimum because of less passing of classes and through better supervision of pupils. Since the teacher has better chance to learn the study habits of pupils, pupil adjustments can better be made, and the interest of the pupils can best be maintained.

d. It reduces the amount of home work and more effective work may be carried on, although the home work is not altogether eliminated.

e. It creates a greater teacher responsibility which cannot easily be shifted to another.

The disadvantages of the lengthened period may be summarized as follows:

a. The teacher is likely to take the en-

tire time for recitation rather than devote a portion of it to study.

b. It does not give enough time to the laboratory subject.

c. The cost is slightly greater.

Perrin, Nellie Haton. *A Study to Determine the Effect of Vacation on Fifth Grade Children*. May, 1934. Pp. 130. (No. 169.)

**PROBLEM.** The purpose of this study was to ascertain whether fifth grade children in Terre Haute, Indiana lose or gain in the academic subjects from June until September and to determine the amount of loss or gain in its reliability by determining first, whether there was a loss or gain; second, in which subject the greater loss or gain occurred; third, whether there was a greater loss or gain among pupils with intelligence quotients above one hundred or among pupils with intelligence quotients below one hundred; fourth, whether the loss or gain was greater between 5B and 5A or between 5A and 6B; fifth, whether a greater loss or gain occurred among the indigents or among the non-indigents; sixth, whether there was a greater loss or gain among the boys or among the girls.

**METHOD.** In May, 1923 the *Otis Self-Administering Tests of Mental Ability, Intermediate Examination: Form C For Grades 4-9* and the *New Stanford Achievement Test Advanced Examination. Form Z For Grades 4-9* were administered to 154 fifth grade children in six different schools. A second form, Y, of the Stanford Achievement Test was administered again in September to the same children. The tests were scored and the differences between the two sets of scores were found. The mean difference and its reliability were computed for each subject and for each group which was measured.

**FINDINGS.** The summer vacation of 1933 caused an average loss of approximately two months in educational age in the fifth grade. About thirty per cent of the pupils made gains, while sixty-nine per cent of them showed losses.

There were losses in all subjects except reading. The gain of nearly two and one-

half months in paragraph meaning was entirely reliable. The gain of one month in word meaning was highly reliable. But the slight gain in literature was not significant.

The losses of approximately one month in arithmetic reasoning, in physiology and hygiene, and in language could not be considered reliable.

The losses of two and one-half months in spelling, five months in computation, seven months in history and civics, and eight months in geography were reliable.

The children with intelligence quotients above one hundred lost about one month in achievement, while those with intelligence quotients below one hundred lost more than two months. The difference between the mean losses was reliable.

There was a loss of nearly three months between 5B and 5A, while the loss between 5A and 6B was about one month. The difference between these losses was highly reliable.

The indigents lost approximately three months in achievement, while the non-indigents lost one and one-half months. The difference between these losses was highly reliable.

The boys' loss was nearly three months; the girls' loss was about one and one-half months. The difference in this amount of loss was found to be reliable.

Luehring, Arthur H. *General Metal Work for the Junior High School*. June, 1934. Pp. 224. (No. 170.)

**PROBLEM.** No general agreement has been reached in regard to lines of procedure for training industrial arts teachers for the junior high school general shop plan. Best methods are suggested to prospective teachers in training and then they are expected to work out their specific problems to the best of their abilities. Anything that may be done that will assist the new junior high school industrial arts teachers to solve their problems would seem worth while. It is the purpose of this study to plan a general shop course of study embodying



foundry practice, forging, and machine shop practice.

**METHOD.** Books, courses of study, and other publications were reviewed in order to arrive at authoritative conclusions in regard to important topics relating to the study. These topics are as follows: Justification of Teaching Foundry Practice, Forging, Machine Shop Practice in the Junior High School, Planning Industrial Arts Courses of Study, Objectives of Industrial Arts, and Industrial Arts Instruction Sheets. In order to arrive at authoritative conclusions in regard to operations, information topics, and projects the research method was resorted to. Letters were sent to the state directors of industrial arts of nine states, namely: Indiana, Illinois, Wisconsin, Michigan, Ohio, Minnesota, Iowa, Maryland, and California. These directors were asked to submit the names and addresses of teachers whom they thought best qualified to pass judgment upon the study to be made. As a result of these letters a list of teachers was compiled. These teachers were then sent questionnaires in the form of check lists. The check lists consisted of lists of operations, information topics, and projects. Space was provided in which each item could be checked as to whether the checker deemed the item to be essential, desirable, or non-essential. One hundred forty-five replies were received. Each item was then ranked and all the items were arranged in a descending order of importance.

**FINDINGS.** As a result of this research study the items at the top of the lists may be considered of most importance and should be included in a course of study. The items toward the bottom of the lists are of least importance and may be omitted. As a result of comments that many of the teachers made in justifying their checking it may be concluded that no project is essential but that any project is desirable if it involves the operations it is desired to teach.

Other findings revealed by the whole study may be listed as follows:

1. No generally recognized set of objectives have been adopted by any national

group of industrial arts administrators or teachers.

2. General agreement needs to be secured in regard to what should constitute the different types of instruction sheets.

3. The unit shop plan is the most efficient plan of conducting industrial arts shop work. It is expensive to administer, however, and can only be carried on in the larger schools. The general shop plan is the only plan by which the smaller schools may be enabled to give pupils a fair sampling of a variety of shop work.

Alman, W. Herbert *A Study of the Voluntary Reading Activities of the Boys and Girls of Terre Haute, Indiana.* May, 1934. Pp. 295. (No. 171.)

**PROBLEM.** This study was undertaken with the intention that it should constitute a comprehensive disclosure of the present status of the voluntary reading activities of Terre Haute children and the effect of certain influences on the quality and quantity

**METHOD.** Educational research procedures were employed. Data were obtained by questionnaire returns from 190 Boy Scouts (selected group) and 5,555 school children (unselected group) in grades two to nine, inclusive. The major portion of the study is based on the more significant data from the 4,288 pupils of the intermediate and junior high school grades. The data were studied on the basis of a development-age grouping: in the case of the Boy Scouts, by Scout rank, and in the case of the school children, by grades and grade groups (intermediate and junior-high).

**FINDINGS.** The extensive use of the main public library and the fourteen branches, then existent, was confirmed by the fact that seventy-one per cent of the Boy Scouts had library cards, and eighty-six per cent of the pupils possessed and seventy-eight per cent were using library cards. More than ninety per cent of the pupils read library books, the major source of these books being the branch libraries located in their own schools. Only approximately one-half of the pupils' parents read library books. Scouts read four or five

books per month—some as many as twenty—preferring juvenile-adventure themes.

Seventy-one per cent of the pupils owned books, which only in the case of the younger children satisfied their interest desires satisfactorily. The preference of the younger children was for fairy stories, graduating, with a rise in age, into a preference for Westerns and miscellaneous adventure of the book-series type.

An influence by the radio upon children's reading was indicated by a number of books read because of their mention over the radio.

Boy Scouts reported reading 144 different magazines, thirty-one per cent of which were of the thriller-and-adventure type weeklies, seventeen per cent magazines for the home—read mostly because of accessibility—and only six per cent boys' magazines. Seventy-seven per cent of the school pupils read magazines. Except in the case of the younger pupils, who preferred *Child Life*, *Boys' Life* was the first choice of both the Boy Scouts and the school pupils, with *Popular Mechanics* next.

Eighty-eight per cent of the children attend movies, one-half at least once each week, and many as often as five times each week. The younger children preferred Westerns, whereas the others preferred mystery-and-crime pictures. Considerable preference for romantic-adventure types was also shown by the adolescent groups.

Membership was indicated in forty-six different children's clubs. Many of the pupils belonged to a number of clubs; fifty-three per cent of them belonged to Scout clubs.

Ninety-five per cent of the pupils read newspapers, preferring the comics in great excess to all other sections. Sports assumed a high preference with the older pupils. Little actual interest was shown in news and editorials.

The movies, the radio, clubs, and other extraneous recreatory activities were found to have considerable influence upon children's voluntary reading in a manner which strongly indicates an increasing need for thoughtful guidance of children's reading habits. The library, especially the branch

library located in the pupil's own school, is potentially, not only the greatest combative force for counteracting undesirable influences upon children's reading, but is a leading factor among those of desirable influences.

McWethy, John S. *An Outline for Instruction Sheets for Seventh- and Eighth-Grade Woodwork*. May, 1934. Pp. 130. (No. 172.)

**PROBLEM.** This study was undertaken with a twofold purpose: first, to establish a background to educationally evaluate the subject of woodwork as a part of the junior high school program; second, to develop a course of study that would lend itself to be clearly analyzed into specific units for the writing of instruction sheets.

**METHOD.** The library technique and questionnaire technique methods were followed in the study. The former was used for the first part of the study and the latter was used for the part dealing with the development of the course of study. The material from which the analysis was made was contributed by 107 teachers of woodwork.

**FINDINGS.** One of the primary purposes of the junior high school is to provide a differentiated curricula involving some type of shopwork. The manual arts have been given an important position in the organization of every true junior high school program with a type of work that is not vocational in character but one providing general educational experiences. Woodwork has proven to be one of the most important subjects for the realization of the objective, because of the flexibility that enables it to be generalized more than any other kind of trade.

A course of study was developed by sending out questionnaires, obtaining from teachers of woodwork the things they teach and the various grades in which each unit of instruction is taught. From the majority tabulated, the course of study was evolved. From the course of study, units of instruction were analyzed to be used for the titles of the instruction sheets.

All available instruction sheets were

analyzed and found to be, in general, written from the standpoint of trade instruction and not general education. These were simplified to eliminate the vocational elements and make them more desirable from the viewpoint of a teacher of general education. Examples of the sheets recommended were included in the study.

**Brauchla, Herbert R.** *A Study of the Withdrawal and the Failure Marks in 245 High Schools of Indiana, 1923-24.* June, 1934. Pp. 264. (No. 173.)

**PROBLEM.** This study was undertaken with a threefold purpose; first, to determine the rank of the subjects of the high school program of studies in the order of the existence of the greatest percentage of withdrawals, failures, and the sum of withdrawals and failures, respectively, of the enrollments; second, to determine the rank of the upper four scholastic years of high school in the same manner; and, third, to determine whether the size of the school affects the ranking position of the subjects.

**METHOD.** The research method was used in the study. Data were borrowed from Prof. E. E. Ramsey. From these data, the semester marks for each pupil were noted and the number of enrolled pupils, withdrawals, and marks of failure were tabulated for each of 175 subjects. The 245 schools are located in 76 counties. The total pupil enrollment was 41,472 with an aggregate of 165,413 pupil-subject enrollments.

The 175 subjects were ranked for withdrawals, failures, and the sum of withdrawals and failures, respectively. In turn, these subjects were telescoped into thirty-five subject-groups, twelve departments, five department-groups, and two department-groups and were similarly ranked.

The scholastic years were ranked by using such subjects as are commonly offered at a known and definite year-level.

The data were grouped according to the size of the schools, using 150 enrollment as an interval. The group of the smallest schools was sub-divided into three groups.

The twelve departments were ranked for each interval-group of schools.

**FINDINGS.** The percentage of withdrawals ranges from 0.00 to 44.00 per cent of the enrollment for the 175 subjects. The range of failures is from 0.00 to 33.33 per cent, and the sum of the two coincides with the range of withdrawals. Subjects of the various departments seldom place near each other, yet, in withdrawals, many subjects of the industrial arts department rank among the first positions; and in failures, industrial arts, commerce, first year languages, and mathematics subjects rank high.

In the thirty-five subject-groups the range is from 1.33 to 11.58 per cent in withdrawals and from 0.00 to 18.74 per cent in failures. The commercial subject-group appears among the first of the withdrawals. Otherwise, the general groupings of the preceding paragraph are emphasized here.

For the twelve departments, commerce, industrial arts, and agriculture rank in the order named in having the greatest percentages of withdrawals; and mathematics, foreign languages, and English rank likewise for failures.

In the five department-groups, first ranks were: withdrawals, commercial, 10.06 per cent; failures, academic, 8.10 per cent; and for the sum of the two, commercial, 15.73 per cent.

Finally, the academic department-group ranks first in failures and the sum of the two; and the non-academic departments show most withdrawals.

In these five groups of rankings, the positions of rank for the sum of withdrawals and failures seems to be influenced much more by the ranks in failures than in withdrawals.

The finding for the second problem is that the greatest percentages for both withdrawals and failures occur in the scholastic years I, II, III, and IV in the order named in almost all studies.

The findings for the third problem is that the size of the school does affect the ranking position of studies for withdrawal and

failures, although the change of position follows no general trend.

In conclusion, the range of the percentage of withdrawals in the various sized schools was from 4.32 to 9.27 per cent. The range of failures was from 5.72 to 13.41 per cent. For the sum of withdrawals and failures, the range was from 10.65 per cent in schools with an enrollment of fifty or less to 19.66 per cent for schools with enrollments greater than two thousand four hundred. In general, the larger the enrollment of the school, the greater is the percentage of withdrawals and failures for the aggregate of enrollments in all subjects.

These findings compare closely with those of contemporary studies.

Richardson, Rosalie. *A Survey of Recent Objectives in the Teaching of English Expression in the Junior High School*. May, 1934. Pp. 41. (No. 174.)

**PROBLEM.** This survey was made with a threefold purpose: first, to discover the nature of English expression as defined by recent educators in their publications; second, to determine the objectives to be achieved in the teaching of English expression as set forth by these authorities; and third, to discover the best methods of procedure to motivate these objectives.

**METHOD.** The method was one of survey, through readings in the library. Such authors as Charles Swain Thomas, Thomas C. Blaisdell, and Virginia J. Craig were chief sources for definition and statement of objectives. The *English Journal* was the best periodical for findings in motivations.

**FINDINGS.** English expression includes both oral and written types. The formal oral and written types have been replaced by the less formal. In oral expression conversation has been given a technique of its own. All motivations must be in line of junior high school interests and abilities.

Oral expression receives the major emphasis in the junior high school.

Written expression should be motivated for accuracy. The form emphasized in written expression is letter-writing. All

social, civic, and business contacts may be motivated through letter-writing.

The goal for English expression in the junior high school as set forth by the educators through their National Council is "to speak and write clearly and effectively."

Porter, Eva Belle. *A Standardized English Literature Test for the First Semester of the Tenth Grade*. June, 1934. Pp. 63. (No. 175.)

**PURPOSE.** The purpose of this study was to prepare a standardized test in English literature for use in the first semester of the tenth grade.

**METHOD.** A preliminary test of 218 items was prepared. The test contained four types of questions; multiple-choice, true-false, completion, and matching. A table of specifications was prepared and closely followed. This table was a general guide for the construction of the test and guarded against the omission of essential items. It helped to balance subject matter properly. A survey of eleven standard texts in junior high school literature was made. An attempt was made to apportion test items according to the number of pages allotted to each form of literature included in the texts. The preliminary test was validated according to rules made by authorities in the field of the new-type test.

The test was given to 212 students in two senior high schools of Terre Haute. Each paper was scored according to prepared rules.

In each case where the number of students in the poor group answering an item was near to the number of students of the higher group answering the same item, the item was eliminated. The items which remained made up the standardized test. When the standardized test had been arranged in order of increasing difficulty, the standardized test was broken into duplicate forms.

**FINDINGS.** The standardized tests show high reliability. The coefficient of correlation with its probable error was  $.96 \pm .007$ .



Elliott, Maize Jane. *A Survey of Parents' Opinion Concerning the Qualifications of Teachers*. June, 1934. Pp. 173. (No. 176.)

**PROBLEM.** The purpose of this survey was to get the opinions of parents and public concerning the qualifications of teachers, to determine the fairness of these opinions, and thereby get some suggestions helpful for the schools of Fayette County.

**METHOD.** The questionnaire method was used in the survey. Questionnaires were prepared from questions discussed by the people. These questionnaires were given personally to people coming to the office and sent by mail to others. Of approximately 800 questionnaires that were given out, 417 were answered and returned. These answers were tabulated according to the occupation, sex, and education of the people and whether or not they had children in school.

**FINDINGS.** Of the 417 people answering 235 were women and 182 were men. Of these, 179 were housewives and 131 were farmers. The other 107 were divided among office workers, merchants, salesmen, mechanics, professional men and women, a miscellaneous group, and those who gave no occupation. One hundred forty-seven women and one hundred twenty-one men had children in school. Ninety-three women and fifty-seven men were high school graduates, while one hundred forty-two women and one hundred twenty-five men were not.

It was thought by the majority that elementary and high school teachers needed no more than the required amount of training. This was contradicted when it was agreed that teachers should improve their work each year by going to summer school, doing extension work, and so forth. It was also thought that teachers should not be allowed to teach on a permit, due to the great number of unemployed teachers.

A majority thought that teachers should attend and take part in church and social affairs of the community. Also in case there were several churches in the commu-

nity, they should attend the church to which they belong.

Dances and card parties were disapproved by 277, and 350 voted against the teachers taking active part in local politics.

Three hundred seventy favored the teacher giving extra time when it was needed, and 369 favored the teacher being able and willing to take on extra-curricular duties.

The questions on dress, health, punctuality, and morality of the teachers were answered in the affirmative by 400 or more of the 417. That the teacher was responsible for the appearance of the room was approved by 394.

Three hundred sixty-six thought teachers meetings were beneficial and should be attended.

Three hundred forty did not think that married women whose husbands had work should teach.

Of the 417 answering, 297 thought that teachers should not be asked to contribute to all donations.

The question that was most evenly divided was whether or not teachers talk too much about their work and salaries. One hundred fifty-eight thought that they did, 160 did not, and 99 did not answer.

The minimum age was thought best at 21 and the maximum age was 50, although 20 and 60 were favored by a great many.

The minimum salaries were the same as are now set by the state, \$800 for grade teachers and \$1,000 for high school teachers.

The ten qualifications listed the most times by the patrons were: impartiality, good disposition, kindness, patience, good judgment, pleasing personality, good discipline, love for children, self-control, and sympathy.

Porter, Corden. *A Mental Educational Survey of the Pupils of Taylor Elementary School, Jeffersonville, Indiana*. June, 1934. Pp. 116. (No. 177.)

**PROBLEM.** The purpose of this survey was to investigate the intelligence and achievement of the pupils of the colored

elementary school of Jeffersonville, Indiana, in order to find:

1. The general mental ability of the pupils.

2. How the intelligence of the pupils compares with the teachers' estimates.

3. How the pupils compare with the standard norms of intelligence.

4. How the achievement of the pupils compares with the standard norms of achievement.

5. How the grade placement of the pupils according to their achievement compares with the present placement according to the teachers' judgment.

6. How the intelligence of the pupils compares with their achievement.

**METHOD.** The statistical method was used in this survey. One hundred and ninety-five pupils of the eight grades of Taylor Elementary School were given intelligence and achievement tests. The data used in this survey were the pupils' test scores, their I. Q.'s, their educational ages, their test grades, the teachers' estimates of the pupils' ability, and the present classification of the pupils according to the teachers' judgment. Twenty-eight figures and twenty-two tables were constructed to simplify the data. The data were carefully collected, classified and interpreted.

**FINDINGS.** The mental ability of the pupils was slightly below average according to the tests.

Teachers' estimates of the pupils' ability were not very reliable measures of general ability.

All grades except grade 3A were considerably below their standard norms of intelligence and grade 3A was slightly above its norm.

All the grades except grade 1A were considerably below their standard norms of achievement and grade 1A slightly excelled its norm.

One per cent of the pupils achieved above the level of their present grade; and sixty per cent, at the level of their present grade; and 39 per cent, below the level of their present grade.

The placement of pupils in grade groups according to the teachers' estimates fell

far short of rendering them relatively homogenous with respect to educational achievement.

The pupils did better work than was expected of their degree of mental ability.

In every grade there was an inverse ratio between the I. Q.'s. and A. Q.'s.

The norms for the tests given in this survey were based upon the performance of white school children of average environment. No norms are available for colored school children. Before fair comparisons between the school performance of white and colored children can be made, the school must be put on the same footing in regard to buildings, grounds, equipment, instruction, and all other factors affecting educational achievement.

Brown, William G. *A Study of the Relationship Between Graduate and Undergraduate Scholarship at the Indiana State Teachers College.* June, 1934. Pp. 72. (No. 178.)

**PROBLEM.** This study was undertaken with the purpose of determining the relationship between graduate school and college records of students who have received their masters' degrees from Indiana State Teachers College. For clarity this may be broken up into five smaller purposes. They are: first, to determine the difference between college and graduate school scholarship; second, to measure the effect that some outside factors have on work done in the graduate school; third, to determine if any college subjects are the key subjects by which graduate grades may be calculated; fourth, to determine if any subject in the college curriculum predicts the success or failure of a student in writing a thesis; and, fifth, to determine the relationship between teaching experience and graduate scholarship.

**METHOD.** The records of students who have secured their masters' degree were secured from the Graduate Office. All grades marked on them were changed to index numbers, they were measured for mean, median, mode, probable error, average deviation, quartile deviation, and range, and the results were tabulated into tables placed

in the thesis at the end of the discussions of the various parts.

**FINDINGS.** There were 158 individuals' records included in this study. The findings may be summarized as follows:

1. Scholarship in the graduate school is in all cases of a higher grade than that in college.

2. Graduates from other colleges who attend Indiana State Graduate School make better grades than graduates from Indiana State Teachers College.

3. Women make better grades in college than men.

4. Women make better grades in the graduate school than men.

5. Higher grades are made in graduate school education than in college education.

6. There is no relation between grades in English, social studies, science, or supervised teaching in the college and success in the graduate school.

7. There is no relationship between grades in English, social studies, science, or supervised teaching in the college and the quality of thesis which is to be expected of an individual.

8. Those who have high school experience as teachers make better grades than those who do not.

9. There is no difference between the average grades made by married and married persons.

10. Those with experience in administration make better grades than those without it.

11. Persons with experience in rural schools make better grades than persons in any other experience group except those with high school experience.

Dawald, Victor F. *A New-Type Objective Test in American History*. June, 1934. Pp. 66. (No. 179.)

**PROBLEM.** This study was undertaken with a threefold purpose: first, to provide a new-type objective test based upon the state course of study; second, to provide an objective test to be used as a teaching aid; and third, to provide new information and data on new-type objective tests.

**METHOD.** The research method was fol-

lowed in this study. Four preliminary tests of 488 samplings were constructed. These tests were then given to groups of students ranging from two hundred to fifteen hundred in number. A statistical analysis was then made of each of the 488 samples to determine the difficulty of each sample and to determine the validity of each sample. The poor samples were then culled out and the remaining valid items arranged in order of difficulty in a first semester test of 150 items and a second semester test of 150 items. These two tests were then given to 140 high school juniors. Reliability was then determined for each semester test. By the use of the chance halves method and the Spearman-Brown Prophecy Formula the reliability was found to be .947 for the first semester test and .945 for the second semester test.

**FINDINGS.** The mean score of students in long term schools was found to be higher than the mean score in short term schools when pupils were measured by tests based upon the state course of study.

The chance halves method of establishing reliability of a test yields a higher coefficient of reliability than does the split test equivalent form method.

The Indiana state course of study on United States history offers adequate objectives and desired outcomes for the building of new-type examinations.

It is impossible to detect and cull out poor items without making a statistical item analysis of every sampling considered for the test.

Few new-type tests are available in United States history that have their reliability scientifically established.

Use of detailed procedure to secure a valid test will result in a test with a good degree of reliability.

Teachers of United States history are interested in better new-type tests, as evidenced by their interest and willingness to cooperate in securing material to be used in this study.

Much is to be done in the construction of new-type tests for the improvement of teaching in United States history.

Little past experience is to be found

dealing with the construction of new-type tests in United States history.

The construction of a valid and reliable new-type test is a task that should not be undertaken in less time than an entire school year, or better still, two school years.

Care must be exercised in all phases of the construction of a new type test. All procedures, instructions, and minor details must be followed minutely if the highest validity and reliability are to be expected.

A great deal of expense is involved in the construction of a valid and reliable new-type test. Consequently, new-type tests having high validity and reliability will come, for the most part, from colleges, universities, and large city schools where funds are available for carrying on of such research as is required in test construction.

Darrough, Nell Glenn. *A Survey of Industrial Terre Haute*. June, 1934. Pp. 84. (No. 180.)

**PROBLEM.** This survey was undertaken with a threefold purpose: first, to determine whether the commercially trained student from the Terre Haute high school was employed in the city; second, to discover, if possible, the strong and weak points of this training; and, third, to secure data that would be valuable relative to a curriculum revision.

**METHOD.** The personal interview method was followed. In securing data a personal interview with managers in the various industrial plants and firms listed was secured. At the time of each interview an outline and questionnaire were filled out by the writer. The questionnaire contained ten leading questions centered around the commercial high school graduate in an effort to determine the general effectiveness of this training.

**FINDINGS.** From the survey it would appear that commercially trained high school graduates should receive a more intensive training in the "tool subjects" of the course and a more general and business-like training along other lines. In order to do effective work in the teaching of commercial subjects teachers must know and understand actual business conditions. The class-

room in any commercial course should be as much like a business office as possible.

The commercial courses now offered by the high schools of Terre Haute should be more thoroughly understood by business men; and a closer relationship should exist between the commercial department and business men. These men need to know that in most cases the schools are just as capable of sending fine, efficient workers to their offices as are the business colleges.

Terre Haute needs a systematic placement-plan operating between all three high schools and business men of the city. Business men are using the local high school graduates to some extent, but in many instances more students could be placed in various positions.

Business men are in favor of a commercial high school curriculum consisting of two parts: the cultural or academic course and the practical or business course. The main insistence is upon greater emphasis of the "three R's" and the ability to make sensible transcription from shorthand notes, to spell well, and to construct a well-worded correctly written sentence.

Without in any way seeming to be all-inclusive the following curriculum is advanced as being acceptable in the main to the business men of Terre Haute who were interviewed:

- I. Cultural subjects (many of those regularly found in the curriculum of the puerly academic high school).

## II. Practical Subjects

- A. Book and Instruction work
  1. English—with emphasis on spelling, punctuation, grammar, and business letter writing.
  2. Arithmetic—both written and mental simple fundamentals.
  3. Penmanship—until the handwriting is legible.
  4. Business subjects as stenography, typing, bookkeeping, until a thorough knowledge of debit and credits is gained, and commercial law.
  5. General business practice, office methods, and general business procedure.



### B. Ethical and Inspiration Work

Insistence upon such matters as business ethics, character, honesty, accuracy, industry, the value of a definite purpose, thinking for one's self, the correction of the fallacy that one's studying days are over on commencement day.

Watkins, Everett F. *A Study of the Reward and Punishment Practices of a Typical Group of Indiana Teachers*. June, 1934. Pp. 54. (No. 181.)

**PROBLEM.** This study was undertaken with a threefold purpose; first, to determine the reward and punishment practices in actual use among Indiana teachers today; second, to determine the principles governing the administration of these practices; third, to evaluate and interpret these in the light of recent theories of motivation.

**METHOD.** A collection, compilation, and tabulation of data was made through the use of a five page questionnaire. This questionnaire was placed in the hands of 728 teachers and principals. Three hundred fifty-seven returns were received from six counties. All answers were carefully tabulated and arranged in order of frequency.

#### FINDINGS.

##### A. Rewards

1. All schools give rewards as a method of motivating school work. These rewards are classified and ranked as follows: grades, private commendation, duties of trust, prizes, honor roll, exemption, exercises honoring physical achievement, school letters, diplomas, membership in club organization, early dismissal, certificates of honor, socialized work, special work, reading period.

2. There are two kinds of rewards, namely, constants and variables. Grades and examinations make up the constant list. Duties of trust, private commendations, honor roll positions, membership in club organizations, granting of diplomas, and other certificates of honor, pupil par-

ticipation in honoring pupil achievements and the like, constitute the variables.

3. There is a generally recognized need for some type of reward other than rewards for scholastic attainments and supplemental to the reward of grades. As opposed to the reward of grades, these supplemental rewards include many citizenship responsibilities and many extra-curricular activities.

##### B. Punishment

1. All school use the following forms of punishments which are ranked in importance as follows: detention, extra work, threats, restitution, whipping, isolation, standing on floor, sarcasm, slapping hands with rule, personal humiliation, suspension, taking away earned merits, saturation, forced public apology, slapping, expulsion, ridicule, scrubbing or taping mouth for vile language, dunce cap, putting nose in ring on blackboard, private apology.

2. The purposes of punishment are threefold: retaliatory, preventative, and reconstructive. Teachers rank these purposes as follows: reconstruction, prevention, and retaliation.

##### C. Manner and Time of Administering Punishment

1. In the majority of cases punishment is administered in private immediately after conference with the student. It is impartial, including only occasionally an investigation of the child's motives, and in a few cases a study of his home background.

Parker, Ralph B. *A Survey of Attendance Officers in Indiana*. June, 1934. Pp. 62. (No. 182.)

**PROBLEM.** This study was undertaken to determine the professional and educational status of the county and city attendance officers of Indiana.

**METHOD.** The questionnaire method was followed in the study which intended to cover the general and specific phases of school attendance not included in the records on file in the state attendance office.

Reports were received from 85.9 per cent of the county attendance officers and 86.3 per cent of all the city attendance officers.

**FINDINGS.** The first compulsory school

attendance law was passed in Indiana in 1897. It was this law that gave the state its first attendance officer.

It is the common practice in Indiana to have attendance officers who are in the prime of life.

The median tenure of city attendance officers is 7.5 years while in the county it is only 4.4 years.

Since 48.4 per cent of the officers have less than one-year of college or normal training, it is safe to conclude that their educational qualification is too low.

The attendance officers have too little training in social work.

Fifty-six per cent of the officers are members of some church.

A large per cent of the officers have lodge or fraternity affiliation which is an important part of the background for social service.

Many of the officers have had experience in organized social work.

About one-third of the officers are recruited from occupations that will serve as the training for social and welfare work.

The salaries of attendance officers are too low, especially in the county.

The attendance officers are doing a fine piece of work. They are thoroughly interested in their work, seeking to use all the social forces of the community to enable children to remain in school. The officers, in general, are striving to see that all needy children are equipped with clothing, shoes, food, medical aid, and books.

They are realizing more and more each day that they are better equipped to solve and handle the truant cases of their district than many of the courts and, consequently, are reducing the number of court cases.

Numerous organizations are doing relief work. Several of the attendance officers are doing an excellent piece of work by co-operation with these organizations.

Porter, Donalde Benjamin. *The Health and Physical Education Programs of Fifty-Three Colleges and Universities for Negroes*. June, 1934. Pp. 93. (No. 183.)

PROBLEM. This study was undertaken with a threefold purpose: first, to ascertain

information regarding health and physical education programs in Negro colleges and universities; second to determine the most desirable features of these programs; third, to evaluate the efficiency of these departments.

METHOD. The questionnaire method was used in making the study. Information was solicited from the seventy-four liberal arts schools, vocational schools, and teachers colleges listed and classified in the Educational Directory for 1933. Information was received from fifty-three of the institutions or approximately 70.66 per cent of the schools listed. This return is above average for a questionnaire study. Other sources of information included school catalogs, personal letters, bulletins, and pamphlets.

FINDINGS. There has been rapid progress in Negro education toward a realization of the importance of health education and physical education as an integral part of the curriculum.

The majority of Negro schools had compulsory requirements in health and physical education. Health courses were found to be required more frequently during the freshman year.

Few Negro schools offered majors in the field of physical education.

Approximately forty per cent of the schools reporting had clinics, and a like per cent had hospitals.

The most responsible persons in the administration of school health service were the physician, the nurse, and the physical education instructor.

There was a trained dietitian in approximately sixty per cent of the schools.

Few schools have separate departments of health education and physical education.

There were few Negro women in the administrative field of health and physical education.

Health facilities and physical education facilities were lacking in many cases because of economic conditions.

Varsity athletics were more popular in Negro schools than intra-mural athletics.

Only fifteen persons in the health and physical education departments of the schools reporting did not have degrees.

## Around the Reading Table

HUNTER, GEORGE W. *Science Teaching at Junior and Senior High School Levels*. American Book Company, New York, 1934. 552 pp.

This is a readable and stimulating book covering the current problems that present themselves in the teaching of science in junior and senior high schools. The book is divided into sixteen chapters, in each of which the author discusses in reasonable detail some helpful phase of science teaching.

There is a chapter on "the gradual development of science teaching in the United States"; one on "the objectives of the secondary school science teaching and its relation to the high school." One chapter is devoted to each of the following: "methods and techniques," "the place of the textbook in science teaching," "the problem of correct motivation," "the place of health education in the science program," "the place of testing." The book closes with an interesting discussion on "the science library," "planning for the laboratory and classroom," and concludes with a discussion of "the training which the teacher of science at high school levels ought to have."

Fortunately the book is addressed, not to the indifferent teacher who asks for passive direction, but rather to the interested and alert teacher who would like to work out his own problems of teaching science in the high school in the light of the best opinions and practices of the day. Perhaps the best feature of the book is that it strikes a fine balance between the claims of science and the necessity for such a way of presenting it in the classroom that it shall register effectively in the life of the pupils. The book is a valuable reference volume for a teacher who regards his work as a growing adventure.

—L. J. Rettger

Indiana State Teachers College.

COX, PHILLIP W. L. AND EMERSON LANGFITT. *High School Administration and Supervision*. American Book Company, New York, 1934. 689 pp.

Until recently there has been a dearth of textbooks dealing with the administrative and supervisory functions of the high school principal and his assistants, but within the last three years there has been a fairly generous supply. The most recent addition to the list is the one by the gentlemen

from New York University. It is quite comprehensive, including consideration of practically all administrative duties that befall a high school principal, but it slights the supervisory ones. This is quite proper for supervision is so important and complex a subject that it should be treated in a separate volume.

The method of treatment used by the writers is much the same as that customarily found in scientific treatises in education. It breaks away from the rather individual style employed by Professor Cox in his earlier books. Considerable use is made of footnote references to other publications, but the writers do not depend as largely on the writers of others as is done so frequently by others. They tend more to use footnote references to supplement than to support what they propound. At the end of each chapter is a fairly exhaustive bibliography, but not annotated. Also, there is a short list of "problems and challenges," but these, like most such in textbooks, are probably of little value except to make the book appear "pedagogical."

The book should be of greatest value as a text in a general course in high school administration or as an aid to young and inexperienced principals. The last chapter is entitled "The Beginning Principal," and contains some rather intimate suggestions addressed to such principals.

—J. R. Shannon

Indiana State Teachers College.

MANUAL OF NURSERY SCHOOL PRACTICE by Iowa Child Welfare Research Station. *Bulletin of the State University of Iowa*, New Series No. 730, March 10, 1934. 203 pp.

The Manual presents a picture of the organization and activities of the groups comprising the educational units of the Station. The groups consist of a nursery school of four age levels of pre-school children—two, three, four, and five year olds, and in addition, parents and research students.

The purpose of the nursery school is conceived to be the supplementing of the home and community in the guidance of the child's physical, mental, and social developments, health, and learning patterns. The definiteness and concreteness of the descriptions of conditions and techniques by which behavior patterns in these fields are developed, will be of interest to

students of young children, teachers, and parents particularly since each age level and type of development is treated specifically. The authors caution readers not to imply that techniques described are pre-practice so far as it is known, and are described fully to give actually of the practice at the Station.

The chapters dealing with excursions, festivals, special occasions, social adjustments, and records are particularly valuable.

Since duplication of material becomes a problem even on pre-school level, lists of stories and songs for the age levels would have been a contribution.

—Mary D. Reed

Indiana State Teachers College

HEFFRON, IDA CASSA. *Francis Wayland Parker, An Interpretive Biography*. Ivan Deach, Jr., Los Angeles, 1934. 127 pp.

*Francis Wayland Parker* is a slender volume containing a well-written, informative, and inspiring interpretive biography based on the experiences and recollections of a number of teachers who were associated with Colonel Parker at the Cook County Normal School (later the Chicago Institute) from 1883 to 1902.

The importance of this work is suggested by the fact that in some measure it fills the need of a history of Colonel Parker and his work as the father of the "progressive education movement." Its interest and inspirational value are found in the vivid portrayal of Colonel Parker's human qualities, dynamic character, and complete devotion to his educational ideals. He himself said, "All my life I have had a perfect passion for teaching school." He was essentially a pioneer and a great leader.

It can scarcely be said that the account of the work of the Institute is adequate; however, the curriculum and activities are reviewed fully enough to reveal their essential elements.

Much is said in explanation of Colonel Parker's educational philosophy, and numerous quotations from his few writings are given. He was violently opposed to the old school with its severe discipline and uninteresting routine, and he stressed such principles as freedom, self-activity, group cooperation, and expression.

The reader will find all of the principles now recognized as vital in the "new education" embodied in Colonel Parker's work. From the angle of a teacher and administrator he worked out essentially the same principles that Dr. Dewey has formulated from the philosophical approach.

The last chapter contains a list and de-

scription of the outstanding schools which stem from Colonel Parker's work.

G. Stanley Hall said that he visited Colonel Parker's school every year to set his educational watch. Present day educators might well read Miss Heffron's book occasionally for the same purpose.

—E. L. Welborn

Indiana State Teachers College

HILLMAN, ARTHUR. "The Unemployed Citizens' League of Seattle." *University of Washington Publications in The Social Sciences*, Volume 5, No. 3, February, 1934, pp. 181-270.

It is impossible in so short an exposition to set forth the factual materials of this study in anything but the briefest outline. The purpose of the review then is to focus attention on the method pursued.

The study concerns itself with the history, description of the process, and an evaluation of a social movement inaugurated by the unemployed citizens of Seattle, Washington in June, 1932, and carried through to the time of this publication, February, 1934.

"Sociological studies," says the author, "often follow certain patterns using statistical techniques or some other well defined procedure." The author says frankly that no such procedure was used in this study. The method was one of "watching an institution at work." That is to say it was a purely descriptive process over a period of time and from different angles. It is essentially the same method, in part, used by the Lynds in making their study called *Middletown*, although, of course, over a shorter period and with a more narrow scope. There are distinct values in such a method, indeed, in some cases no other methods are at present feasible or expedient.

This report, therefore, has value aside from its worth as a record of community action in the face of immediate practical problem.

The task of the pure sociologist, briefly stated, is that of studying the process of interhuman interaction for the purpose of arriving at generalizations relative to the process of the creation of human personality and social forms and functions by such interactions.

The study, analysis, and synthesis of large numbers of detailed studies, such as the one under consideration, is an important method in arriving at such generalizations. Such data and their pursuit would be another step in the process of removing the speculative element from the science. If more studies of this type were available the sociologists' task of generalizing with reference to social movements would be



simplified and the accuracy of such generalizations increased.

—V. Dewey Annakin  
Indiana State Teachers College

ANDERSON, IRVING AND H. R. CROSLAND.  
"The Effects of Combinations of Handedness and Eyedness on Letter-Position, 'Range of Attention,' Scores." *University of Oregon Publication*, Volume IV, No. 7, March, 1934. (Studies in Psychology—Volume I, Bulletin 6.) 48 pp.

This bulletin is the last in a series of six dealing with the problem of handedness and eyedness and the relation that exists between them. The studies were made of sixty subjects and throughout there seems to have been very careful use of laboratory technique and statistical treatment of results.

In previous studies it was shown that in the general population eyedness and handedness are quite common with eyedness occurring in more extreme degree and more frequently than handedness. There are evidences that eye-dominance precedes hand-dominance in genetic development and aids in its causation; however, the correlation between the two, the positive and high, is not perfect. There are people who are right-eyed and left-handed and also some who are left-eyed and right handed.

The purpose of this study was to investigate the effects on range of attention scores of the various combinations. There are significant differences between right- and left-handed subjects, but they are smaller differences than those between right- and left-eyed subjects. In general the purport of differences in eyedness and handedness shows that these lie in the same direction.

—E. L. Abell  
Indiana State Teachers College

MARTIN, JOHN. *The Modern Dance*. A. S. Barnes and Company, New York, 1933. 123 pp.

The dance has battled for recognition as a major art for a long time. Now, if the classifier is not too orthodox, the list of major arts may include music, painting, sculpture, poetry, literature, drama, and dance. For the last several hundred years, says Mr. Martin, dance critic for the *New York Times*, drama and dancing have quite legitimately excluded themselves from this classification because they had their existence almost entirely within the boundaries of other arts—poetry and music. Realizing how closely linked are all the arts, Mr. Martin only attempts to isolate the dance so that it may be thoroughly understood; so that the false reaction to the dance as a

"vicious habit, based on wrong principles and encouraged by wrong motives and shallow thinking" may be readjusted.

This little book has been conveniently divided into sections on characteristics, form, technique, and the dance and other arts. There is a discussion of the four distinctive points of the modern dance: movement as substance, metakinesis, dynamism, and the discarding of all traditional requirements of form with the establishment of a new principle upon which each dance makes its own form. Most amusing is the section of rhythm systems, from which is quoted: "One girl reported with enthusiasm a rhythmic system that she found very inspiring because it was so far removed from the physical; they were taught to dance, it seems, from the tops of their heads up! This sounds like foolishness, but it is absolutely true. To be sure only the elect who knew the method could get anything out of watching such dancing as this, but the elect were always enthusiastic."

This is not a book for the casual reading of any layman, but it broadens the view of those who have an interest in the dance, and aids in understanding and enjoying our modern dances, for many of us have made the mistake of expecting a standard code of movement and feeling, whatever the recital we may be attending.

—Miriam DuVall  
Indiana State Teachers College

BURNHAM, PAUL S. *Burnham Correlation Form*. Public School Publishing Company, Bloomington, Illinois.

Statistical workers will welcome any new device that promises relief from the long and tiresome processes involved in correlations. Although there are many such charts now in use this one claims some points of superiority such as convenient size, adaptation to either manual or calculating machine operation, simplification of calculation, use of the diagonal method instead of the product-moment method, incorporation in the printed form the deviations and the squares of the deviation. Just how valuable these improvements will prove to be can be determined only by trial but at any rate they seem to be promising.

—E. L. Abell  
Indiana State Teachers College

BISBEE, EDITH V. *Commercial Education Survey Tests: Junior and Senior Shorthand*. Public School Publishing Company, Bloomington, Illinois.

These tests aim to cover the three most fundamental phases of shorthand: 1. knowledge of subject matter; 2. ability to take dictation; 3. ability of students to read their own notes. The junior test has four parts, a sentence test, a dictation test,

transcription of notes, and a spelling test. The senior test is similar in type but has five points. The tests seem to be carefully prepared and should prove very useful. The recording sheet is especially helpful in filing and interpreting the scores. Tentative norms are given and users are requested to send in their scores for further standardization.

—E. L. Abell

Indiana State Teachers College

DRAKE, RALEIGH M. *A Musical Memory Test*. Public School Publishing Company, Bloomington, Illinois.

This test is devised to measure innate musical talent and claims to be valid for predictive purposes. Instead of attempting to measure a large number of abilities, many of which are of minor importance, the author limits his test to one of the fundamental abilities without which musical talent cannot become great. The test requires twenty-five minutes. The examiner plays the melodies on the piano and the testee notes when they are repeated, whether there are any changes in the key, the time, or any of the notes. Checked with teachers' estimates, validity coefficients range from .499 to .671. The test repeatedly gives coefficients of more than six times their probable errors. Reliability by the split half method was found to be .93 with musical groups and .85 with non-musical groups. Age norms are given for groups ranging from the third grade and on through college. Boys and girls norms are also given. This test should be a welcome contribution to the limited list of music tests. It would seem to be more valuable for detecting the absence of musical talent than for predicting success. Musical memory may not be the only fundamental ability necessary for success in this field.

—E. L. Abell

Indiana State Teachers College

DOUGHERTY, B. L., F. L. O'REILLY, AND MARY E. MANNIX. *A Character Inventory Chart*. Public Schools Publishing Company, Bloomington, Illinois.

This chart is primarily for the purpose of stimulating among children an interest in self-improvement. It is attractively and cleverly arranged and ought to serve its purpose. The child first selects the word which best describes the degree to which he shows the given trait and writes the word in the proper place. This word is transferred by carbon to a second sheet which is so arranged as to give a profile of the child according to his own estimate in ten important traits. A study of the profile with the suggestions made is supposed to arouse in the child a desire to improve in

those traits in which he is weak. The ten traits selected for use while admittedly very important apparently represent the authors' judgments rather than the result of scientific analyses of character traits. The chart ought to furnish opportunity for valuable remedial work.

—E. L. Abell

Indiana State Teachers College

BAKER, HARRY J. AND BERNICE LELAND. *In Behalf of Non-Readers*. Public School Publishing Company, Bloomington, Illinois.

This little pamphlet comes straight from a psychological clinic in a great school system and shows how modern scientific methods may be used in a school laboratory in discovering symptoms, diagnosing difficulties, and applying remedies. A large number of case records show the most characteristic symptoms, the sources of symptomatic behavior, the diagnosis of difficulties. Many suggestions for remedial work are given and the results obtained with real cases are evidence that a complete understanding of the pupil and his whole history is necessary before much can be done in bringing about improvement. Every teacher of reading would profit by making a thorough study of this little book.

—E. L. Abell

Indiana State Teachers College

TUTTLE, HAROLD SAXE. *A Social Basis of Education*. Thomas Y. Crowell Company, New York, 1934. 589 pp.

There are several recent and worth while additions to the textbook field in educational sociology. Among these is the work of Prof. Harold Saxe Tuttle of the department of education, University of Oregon.

Dr. Tuttle, in his introduction, very properly draws attention to the fact that the viewpoint dominating education until recently has been that of psychology and educational psychology, both of which have resulted in an emphasis on the individual rather than on the social. "But both the stimulus and the response are social. In some cases the social element predominates." Both the motive for learning and the outcome of learning are social. The author expresses the view that even the application of the laws of learning—that of *use and repetition* and that of *effect* are seldom operative apart from a socially-caused situation.

Proper criticism is levelled at the emphasis placed for two decades upon the testing movement in that this movement has resulted in an undue emphasis upon the individual. Another powerful argument is given against the theory of colleges to base college entrance on the I. Q. of the individual.

al. "But that society would profit by appropriate collegiate training for the lower three-fourths of its youth has not yet been fully disproved." The author does not argue that social objectives should displace the recent highly individualistic tendencies, but that there is needed "a redistribution of emphasis." The book thus becomes an exposition of a sociological philosophy of education.

There are four ways in which sociology can make contributions to education. First, "sociology can help to clarify the aims of education." Second, "an analysis of means and materials which will help attain the approved aim." The third contribution is the suggestion of a body of method to accomplish the desirable goals of sociological education. The same need for a body of methodology from the social viewpoint exists as for one taken from the individualistic view point. A fourth contribution is found in that the fact that sociology can and does contribute to our knowledge of fundamental changes which society is now undergoing and through this contribution is able to suggest changes to an otherwise static and deterministic education.

The introduction is a masterly presentation of the field and function of educational sociology.

The major classifications of the text are: (1) The Goal of Education, presented in six chapters; (2) Psychological Processes, presented in five chapters; (3) Society as an Educative Agency, presented in ten chapters; (4) The School as a Social Agency, presented in sixteen chapters.

The chapter headings under each major division of the book are appropriately and logically chosen. Perhaps one of the sincerest comments that can be offered on the book is to pass on the fact that the students in a graduate course in educational sociology have called for this text regularly and have given unsolicited comment after use that the book is "fundamental and interesting."

The style is clear and simple. The work gives ample evidence of a presentation that is backed by wide research into all worthy presentation in the field. Excellent references both to books and to periodical literature are given.

—E. E. Ramsey  
Indiana State Teachers College